Fourth Quarter 2016 Groundwater Monitoring Summary Report

Hobbs Booster Station
Lea County, New Mexico
AP-114

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1. Introduction

This report summarizes the remediation system activities and results of groundwater monitoring activities conducted during the fourth quarter 2016, at the Hobbs Booster Station (Site) in Lea County, New Mexico (Figure 1). Tasman Geosciences (Tasman) performed these activities on behalf of DCP Midstream, LP (DCP). The groundwater monitoring activities described herein were conducted to monitor the presence of light non-aqueous phase liquid (LNAPL) hydrocarbons, measure groundwater levels, obtain groundwater samples for laboratory analysis, and evaluate groundwater flow and quality conditions. Field data and laboratory analytical results from field efforts conducted on December 21, 2016, were used to develop a groundwater elevation contour map and an analytical results map to evaluate current conditions at the Site.

2. Site Location and Background

The Site is located in New Mexico Oil Conservation Division (OCD) designated Units C and D, Section 4, Township 19 South, Range 38 East (Figure 1). The facility coordinates are approximately 32.414 degrees north and -103.092 degrees west. This facility is no longer used as an active gas compression facility; currently the Site is primarily used as a DCP field office and as an overhaul shop. All ancillary equipment and buildings associated with the former Booster Station have been decommissioned and/or demolished.

The Site has historically had 29 groundwater monitoring wells which are illustrated in Figure 2. However, monitoring well TW-Q has not been able to be located since June 2014 and is presumed destroyed. Twenty six of the existing monitoring wells are located on the Site property while the other three wells (MW-23, MW-24, and MW-25) are located to the southeast of the property boundary on land currently owned by Occidental Permian.

An LNAPL recovery and soil vapor extraction (SVE) system are present at the Site. There are 28 extraction wells (Figure 2) located on-Site including MW-4, MW-8, MW-11, and MW-13 which were previously converted from monitoring wells due to historically high levels of LNAPL. Additionally, the Site operates a groundwater air sparge (AS) curtain that was installed along the south-central Site boundary and includes 21 AS injection wells connected in series (Figure 2). LNAPL, AS, and SVE system operation and performance are described in Section 4.

3. Groundwater Monitoring

This section describes the field groundwater monitoring activities performed during the fourth quarter 2016 monitoring event on December 21, 2016. Monitoring activities included Site-wide groundwater gauging, LNAPL measurements, groundwater purging and sampling, and subsequent packaging and shipping of the samples for laboratory analysis. Figure 2 illustrates the groundwater monitoring network utilized to perform these activities at the Site.

3.1 Groundwater and LNAPL Elevation Monitoring

Groundwater and LNAPL levels were measured in order to evaluate hydraulic characteristics and provide information regarding fluctuations in groundwater and LNAPL elevations at the Site. During the fourth quarter 2016 monitoring event, groundwater and LNAPL levels, where present, were measured at 26 monitoring well locations. Groundwater and/or LNAPL levels were unable to be collected from monitoring wells TW-K, TW-Q, and TW-T as these wells were unable to be located and are presumed destroyed. Additionally, TW-N was not gauged as the well was inaccessible during the fourth quarter 2016 monitoring event.

The monitoring wells were gauged on the north side of the well casing to the nearest 0.01-foot using an oil-water interface probe (IP). Groundwater levels were subsequently converted to elevations (feet above mean sea level [AMSL]).

Groundwater and LNAPL elevations collected during the reporting period as well as historic elevations are presented in Table 1. A fourth quarter 2016 groundwater elevation map, included as Figure 3, indicates that groundwater flow at the Site generally trends to the east. Groundwater elevation ranges, the average elevation change from the previous monitoring event, and the calculated hydraulic gradient at the Site are summarized in the table below.

Summary of Measured Hydraulic Parameters

	Fourth Quarter 2016 (12/21/2016)
Maximum Elevation (Well ID)	3,576.70 (MW-6)
Minimum Elevation (Well ID)	3,566.42 (MW-19D)
Average Change from Previous Monitoring Event – All Wells	0.34 feet
Hydraulic Gradient (ft/ft) / (Well IDs)	0.0052 (MW-6 to MW-19D)

LNAPL was detected in eight (8) of the monitoring wells that were gauged during the fourth quarter 2016 with thicknesses ranging between 0.03 feet in MW-18 to 4.16 feet in TW-W. The calculated groundwater elevation data from monitoring wells that contained product were corrected to account for the LNAPL thickness.

3.2 Groundwater Quality Monitoring

Subsequent to recording groundwater level measurements, groundwater samples were collected from select monitoring wells that did not contain measurable LNAPL. A minimum of three well casing volumes of groundwater (calculated from total depth of the well and groundwater level measurements) was purged from each well prior to the collection of groundwater samples. Groundwater samples were collected using dedicated polyethylene bailers, placed in clean laboratory supplied containers, packed in an ice-filled cooler and maintained at approximately four degrees Celsius (^{0}C) for transportation to the laboratory. Groundwater samples were shipped under chain-of-custody procedures to ALS Laboratories (ALS) in Houston, Texas for analysis.

Fourth quarter 2016 water quality samples were collected from 11 monitoring wells on December 21, 2016. Additional monitoring wells were not sampled during the fourth quarter 2016 as those wells are sampled annually during the September annual monitoring event. These wells are reflected on Table 2.

Water quality samples were submitted to ALS for benzene, toluene, ethylbenzene, and total xylenes (BTEX) analyses by United States Environmental Protection Agency (USEPA) Method 8260B.

Table 2 summarizes BTEX concentrations in groundwater samples collected during the fourth quarter 2016. Analytical results are also displayed in Figure 4. Historic analytical results, up to and including the fourth quarter 2016 event, are included in Appendix A and the laboratory analytical report is included in Appendix B.

Analytical results indicate that BTEX concentrations were below laboratory detection limits or below the New Mexico Water Quality Control Commission (NMWQCC) standard in 9 of the 11 sampled wells. Benzene concentrations in MW-14 (0.047 milligrams per liter [mg/L) and MW-19D (0.11 mg/L) were above the NMWQCC groundwater standard of 0.01 mg/L. Additionally, a duplicate sample from MW-14 indicated a benzene concentration of 0.015 mg/L.

3.3 Data Quality Assurance/ Quality Control

A trip blank and field duplicate sample (MW-14) were collected during the sampling event. The data were reviewed for compliance with the analytical method and the associated quality assurance/quality control (QA/QC) procedures. All samples were analyzed using the correct analytical methods and within the correct holding times. Chain of custody forms were in order and properly executed and indicate that samples were received at the proper temperature with no headspace. All data were reported using the correct method number and reporting units. QA/QC items of note for the fourth quarter 2016 include the following:

- Target analytes were not detected in the trip blank, and;
- MW-14 and the associated duplicate sample exhibited benzene concentrations of 0.047 mg/L and 0.015 mg/L, respectively. The calculated relative percent difference (RPD) is 105, which is above the target range of 20.

The overall QA/QC assessment, based on the data review, indicates that overall data precision and accuracy are within target limits. The high RPD may be attributed to non-homogeneity of target analytes within the sample matrix.

4. Remediation System Performance

This section includes a description of the active remediation system at the Site along with observations and modifications to the system components during the fourth quarter 2016. An evaluation of system performance is also provided based on collected information.

4.1 Remediation System Layout

The array of remediation wells and other infrastructure at the Site is referred to herein as the System. The System consists of 28 extraction wells, 22 Air Sparge (AS) wells, two (2) Soil Vapor Extraction (SVE) blowers, an AS blower, and ancillary piping and conveyance lines, as displayed on Figure 2.

The extraction wells, which are currently used for LNAPL recovery, are aligned along several north-south "legs." The AS wells are aligned east-west along the southern portion of the property to create an approximately 870-foot long "sparge curtain" intended to volatilize dissolved-phase constituents that enter the AS treatment zone.

Overall, the System covers an approximate 1,000 foot (east-west) by 800 foot (north-south) area, or approximately 18-acres.

4.2 Vacuum-Enhanced Extraction Observations

As discussed within the second quarter 2014 monitoring report, vacuum was discontinued at the "Leg 3" extraction wells due to Spill Buster malfunctions. SVE was not applied to any of the extraction wells during the fourth quarter 2016.

4.3 LNAPL Recovery System Performance Evaluation

The LNAPL Recovery portion of the System includes 28 Magnum Spill Buster units (manufactured by Clean Earth Technology) which are installed at wells within the extraction well network. The full scale system has been operational since May 1, 2013. The recovery units were integrated into the existing LNAPL infrastructure which includes conveyance lines and a 100 barrel steel holding tank where recovered LNAPL is accumulated.

Specific measurements and observations associated with the LNAPL Recovery System include:

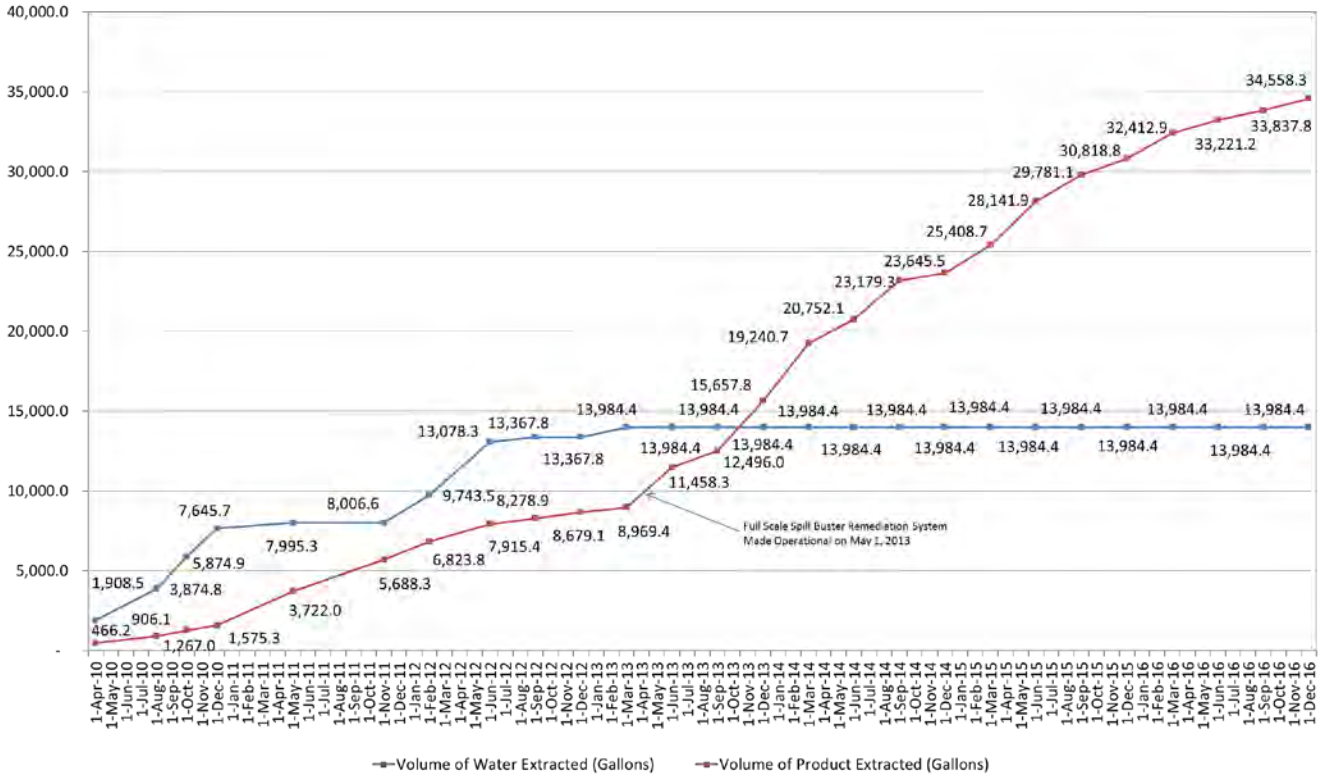
- A total volume of 720.60 gallons of LNAPL were recovered from the extraction wells during the fourth quarter 2016 (measured between September 22, 2016 and December 14, 2016).
- Subsequent to Spill Buster Installation, approximately 25,587 gallons of LNAPL have been removed over 44 months (May 2013 through December 2016) exhibiting extraction rates above those achieved with previous recovery efforts. Product accumulation volumes for specific time periods are summarized in the Liquid Recovery Summary table below.

Incremental and cumulative recovery volumes from April 2010 through December 2016 are summarized in the table and graph below.

Liquid Recovery Summary

Date	Volume of Water Extracted (Gallons)	Total Water (Gallons)	Volume of Product Extracted (Gallons)	Cumulative LNAPL Recovery (Gallons)
26-Apr-10	1,908.5	1,908.5	466.2	466.2
5-Aug-10	1,966.3	3,874.8	439.9	906.1
18-Oct-10	2,000.1	5,874.9	360.9	1,267.0
20-Dec-10	1,770.8	7,645.7	308.3	1,575.3
23-May-11	349.6	7,995.3	2,146.7	3,722.0
21-Nov-11	11.3	8,006.6	1,966.3	5,688.3
20-Feb-12	1,736.9	9,743.5	853.4	6,823.8
28-Jun-12	3,334.8	13,078.3	473.7	7,915.4
25-Sep-12	289.5	13,367.8	363.5	8,278.9
5-Dec-12	-	13,367.8	400.2	8,679.1
25-Mar-13	616.6	13,984.4	290.3	8,969.4
24-Jun-13	-	13,984.4	2,488.9	11,458.3
25-Sep-13	-	13,984.4	1,037.7	12,496.0
26-Dec-13	-	13,984.4	3,161.8	15,657.8
21-Mar-14	-	13,984.4	3,582.9	19,240.7
27-Jun-14	-	13,984.4	1,511.4	20,752.1
22-Sep-14	-	13,984.4	2,427.2	23,179.3
26-Dec-14	-	13,984.4	466.2	23,645.5
27-Mar-15	-	13,984.4	1,763.2	25,408.7
24-Jun-15	-	13,984.4	2,733.2	28,141.9
30-Sep-15	-	13,984.4	1,639.2	29,781.1
9-Dec-15	-	13,984.4	1,037.7	30,818.8
24-Mar-16	-	13,984.4	1,594.1	32,412.9
29-Jun-16	-	13,984.4	808.3	33,221.2
22-Sep-16	-	13,984.4	616.6	33,837.8
14-Dec-16	-	13,984.4	720.6	34,558.3

Totalized Recovered Groundwater and LNAPL Volumes
Hobbs Booster Station



In addition to the above remediation efforts, a single solar-powered Spill Buster unit (and adjacent 1,000 gallon steel holding tank) was operated at monitoring well MW-12 during the fourth quarter 2016. Operation at MW-12 was initiated on December 18, 2013, and during the fourth quarter 2016 (September 22 through December 14, 2016) the Spill Buster at MW-12 removed approximately 51 gallons of LNAPL. Since installation of the solar powered Spill Buster at MW-12, the unit has removed approximately 1,423 gallons of LNAPL over 38 months of operation (December 2013 to December 2016) at that location.

4.4 Air Sparge Performance Evaluation

The AS system has continued to operate on a 24-hour per day basis with minor down time due to routine scheduled equipment maintenance. The primary evaluation criteria for AS performance is tied to the dissolved phase hydrocarbon concentrations present in groundwater downgradient of the AS well alignment. Monitoring wells MW-14, MW-15, MW-23, MW-24, and MW-25, located immediately downgradient from the sparge curtain, provide ideal monitoring locations for observing the effects of the AS system on impacted groundwater as it passes through the treatment zone. On the east end of the AS system, monitoring well MW-14 (0.047 mg/L; duplicate sample 0.015 mg/L) exhibited low dissolved benzene concentrations during the fourth quarter 2016 monitoring event. Monitoring wells MW-24 and MW-25 which are located immediately downgradient to MW-14 and MW-23, continue to have no detectable concentrations of benzene or other dissolved petroleum hydrocarbons. On the west end of the AS system, lab data indicates that dissolved phase hydrocarbon impacts are below the laboratory detection limits.

Additionally, as discussed in the *Third Quarter 2015 Groundwater Monitoring Summary Report*, AS activities were initiated at monitoring well MW-22 due to the continued increasing trend of dissolved phase benzene concentrations at that location. AS was applied to the well on a 15 minute per hour timed cycle to facilitate a pulsing AS treatment approach. The AS activities at MW-22 were discontinued prior to the fourth quarter sampling event to allow the formation to equilibrate and were restarted subsequent to sampling activities.

5. Conclusions

This section of the report presents conclusions from the findings of fourth quarter 2016 groundwater monitoring and remediation system O&M activities.

- LNAPL recovery rates have continued at increased levels following installation of the Spill Buster units and incidental groundwater recovery has been eliminated.
- The AS portion of the System appears to continue to prevent the migration of LNAPL and dissolved-phase impacts across the treatment zone.
- Based on the samples that were collected from MW-14 during the fourth quarter 2016, groundwater at those locations continue to exhibit low levels of dissolved phase benzene that are above the NMWQCC groundwater standards. However, data from adjacent monitoring

points indicate these impacts are not migrating, thereby suggesting a relatively stable dissolved-phase petroleum hydrocarbon plume.

- Monitoring points along the eastern Site boundary, MW-19, MW-21, and MW-22 exhibited benzene concentrations below laboratory detection levels and/or NMWQCC standards. However, the dissolved phase benzene concentration at monitoring well MW-19D has been above the NMWQCC groundwater standards for three consecutive quarters.

6. Recommendations

Based on evaluation of current and historic data, the following recommendations for ongoing Site monitoring and remediation efforts have been developed:

- Continue quarterly and annual groundwater monitoring and sampling activities to monitor dissolved phase BTEX concentration and LNAPL trends.
- Continue operation, monitoring, and maintenance of the Spill Buster LNAPL extraction system.
- Continue to monitor the LNAPL extraction rate at MW-12. The solar unit may be relocated based on evaluation of extraction rate and LNAPL thickness at that location.
- Continue operation, monitoring, and maintenance of the AS system.
- Continue AS activities at MW-22 and discontinue AS activities at that well two weeks prior to the second quarter 2017 groundwater monitoring event to allow the formation to equilibrate prior to sampling.
- In conjunction with remediation activities that have occurred at monitoring well MW-22, initiate pulsing AS activities at monitoring well MW-19D to address the steadily increasing dissolved phase benzene concentrations that have been observed at that location.
- Initiate SVE remediation activities at monitoring wells MW-17 and MW-18 utilizing existing infrastructure from the former SVE System remediation skid. SVE activities will be shut down at those locations two weeks prior to the second quarter 2017 groundwater monitoring event.

Tables

TABLE 1
FOURTH QUARTER 2016
SUMMARY OF GROUNDWATER ELEVATION DATA
HOBBS BOOSTER STATION
LEA COUNTY, NEW MEXICO

Location Identification	Date	Depth to Groundwater (feet)	Depth to Product (feet)	Free Phase Hydrocarbon Thickness (feet)	Total Depth (feet)	TOC Elevation (feet amsl)	Groundwater Elevation (*) (feet amsl)	Change in Groundwater Elevation Since Previous Event(1) (feet)
MW-1	03/24/2016	56.71	53.27	3.44	NM	3626.06	3571.93	-0.42
MW-1	06/23/2016	57.35	53.61	3.74	NM	3626.06	3571.52	-0.41
MW-1	09/28/2016	56.20	52.95	3.25	NM	3626.06	3572.30	0.78
MW-1	12/21/2016	55.50	52.43	3.07	NM	3626.06	3572.86	0.56
MW-2	03/24/2016	DRY			NM	3623.14	NA	NA
MW-2	06/22/2016	51.19	48.56	2.63	NM	3623.14	3573.92	NA
MW-2	09/28/2016	50.03	47.64	2.39	NM	3623.14	3574.90	0.98
MW-2	12/21/2016	49.30	47.20	2.10	NM	3623.14	3575.42	0.51
MW-3	03/24/2016	48.44			NM	3623.01	3574.57	-0.10
MW-3	06/22/2016	49.45			NM	3623.01	3573.56	-1.01
MW-3**	09/28/2016	38.27			55.58	3623.01	3584.74	NA
MW-3	12/21/2016	47.96			NM	3623.01	3575.05	NA
MW-5	03/24/2016	56.53			NM	3630.16	3573.63	0.58
MW-5	06/22/2016	56.84			NM	3630.16	3573.32	-0.31
MW-5	09/28/2016	56.25			59.35	3630.16	3573.91	0.59
MW-5	12/21/2016	55.64			59.35	3630.16	3574.52	0.61
MW-6**	03/24/2016	43.48			NM	3627.93	3584.45	NA
MW-6	06/22/2016	52.49			NM	3627.93	3575.44	-9.01
MW-6	09/29/2016	51.86			56.38	3627.93	3576.07	0.63
MW-6	12/21/2016	51.23			56.38	3627.93	3576.70	0.63
MW-7	03/24/2016	DRY			NM	3621.40	NA	NA
MW-7	06/22/2016	DRY			NM	3621.40	NA	NA
MW-7	09/28/2016	DRY			44.44	3621.40	NA	NA
MW-7	12/21/2016	DRY			44.98	3621.40	NA	NA
MW-9	03/24/2016	60.15	54.82	5.33	NM	3625.21	3569.06	-0.40
MW-9	06/23/2016	60.61	55.18	5.43	NM	3625.21	3568.67	-0.38
MW-9	09/28/2016	58.83	54.53	4.30	NM	3625.21	3569.61	0.93
MW-9	12/21/2016	58.10	54.20	3.90	NM	3625.21	3570.04	0.43
MW-10	03/24/2016	49.25	49.20	0.05	NM	3621.07	3571.86	0.37
MW-10	06/23/2016	NM	NM	NA	NM	3621.07	NA	NA
MW-10	09/28/2016	51.53	48.23	3.30	NM	3621.07	3572.02	NA
MW-10	12/21/2016	51.30	48.25	3.05	NM	3621.07	3572.06	0.04
MW-12	03/24/2016	NM	NM	NA	NM	3627.60	NA	NA
MW-12	06/23/2016	NM	NM	NA	NM	3627.60	NA	NA
MW-12***	09/29/2016	57.80	58.20	0.40	63.05	3627.60	3570.10	NM
MW-12***	12/21/2016	57.46			63.05	3627.60	3570.14	0.04
MW-14	03/23/2016	52.25			NM	3621.42	3569.17	-0.48
MW-14	06/23/2016	52.62			NM	3621.42	3568.80	-0.37
MW-14	09/29/2016	51.42			62.74	3621.42	3570.00	1.20
MW-14	12/21/2016	51.25			62.74	3621.42	3570.17	0.17
MW-15	03/23/2016	47.95			NM	3619.39	3571.44	-0.51
MW-15	06/23/2016	48.39			NM	3619.39	3571.00	-0.44
MW-15**	09/29/2016	36.73			58.13	3619.39	3582.66	NA
MW-15	12/21/2016	46.90			58.13	3619.39	3572.49	NA
MW-16	03/23/2016	47.92			NM	3621.87	3573.95	-0.70
MW-16	06/23/2016	48.40			NM	3621.87	3573.47	-0.48
MW-16	09/29/2016	46.98			56.04	3621.87	3574.89	1.42
MW-16	12/21/2016	46.88			56.04	3621.87	3574.99	0.10

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Location Identification	Date	Depth to Groundwater (feet)	Depth to Product (feet)	Free Phase Hydrocarbon Thickness (feet)	Total Depth (feet)	TOC Elevation (feet amsl)	Groundwater Elevation (*) (feet amsl)	Change in Groundwater Elevation Since Previous Event(1) (feet)
MW-17	03/24/2016	57.20	56.75	0.45	NM	3624.94	3568.08	-0.47
MW-17	06/23/2016	57.60	56.91	0.69	NM	3624.94	3567.86	-0.22
MW-17	09/28/2016	56.68	56.30	0.38	NM	3624.94	3568.55	0.69
MW-17	12/21/2016	56.20	55.87	0.33	NM	3624.94	3568.99	0.44
MW-18	03/24/2016	57.73			NM	3625.30	3567.57	-0.41
MW-18	06/23/2016	58.00			NM	3625.30	3567.30	-0.27
MW-18	09/28/2016	57.37	Trace		NM	3625.30	3567.93	0.63
MW-18	12/21/2016	56.96	56.93	0.03	NM	3625.30	3568.34	0.41
MW-19	03/23/2016	58.15			NM	3624.12	3565.97	-0.39
MW-19	06/23/2016	58.39			NM	3624.12	3565.73	-0.24
MW-19	09/29/2016	57.80			64.95	3624.12	3566.32	0.59
MW-19	12/21/2016	57.44			64.95	3624.12	3566.68	0.36
MW-19D	03/23/2016	58.10			NM	3623.79	3565.69	-0.37
MW-19D	06/23/2016	58.35			79.10	3623.79	3565.44	-0.25
MW-19D	09/29/2016	57.74			78.55	3623.79	3566.05	0.61
MW-19D	12/21/2016	57.37			78.55	3623.79	3566.42	0.37
MW-20	03/23/2016	55.73			NM	3621.49	3565.76	-0.41
MW-20	06/23/2016	55.97			60.69	3621.49	3565.52	-0.24
MW-20	09/29/2016	55.35			64.59	3621.49	3566.14	0.62
MW-20	12/21/2016	55.00			64.59	3621.49	3566.49	0.35
MW-21	03/23/2016	57.52			NM	3624.25	3566.73	-0.48
MW-21	06/23/2016	57.85			62.68	3624.25	3566.40	-0.33
MW-21	09/29/2016	56.83			62.59	3624.25	3567.42	1.02
MW-21	12/21/2016	56.65			62.59	3624.25	3567.60	0.18
MW-22	03/23/2016	60.70			NM	3625.16	3564.46	-1.85
MW-22	06/23/2016	59.60			61.10	3625.16	3565.56	1.10
MW-22	09/29/2016	59.12			61.18	3625.16	3566.04	0.48
MW-22	12/21/2016	58.68			61.18	3625.16	3566.48	0.44
MW-23	03/23/2016	51.82			NM	3621.16	3569.34	-0.48
MW-23	06/23/2016	52.21			56.85	3621.16	3568.95	-0.39
MW-23	09/29/2016	50.94			56.87	3621.16	3570.22	1.27
MW-23	12/21/2016	50.80			56.87	3621.16	3570.36	0.14
MW-24	03/23/2016	49.92			NM	3619.27	3569.35	-0.45
MW-24	06/23/2016	50.34			56.40	3619.27	3568.93	-0.42
MW-24	09/29/2016	48.89			56.31	3619.27	3570.38	1.45
MW-24	12/21/2016	48.87			56.31	3619.27	3570.40	0.02
MW-25	03/23/2016	50.88			NM	3619.73	3568.85	-0.43
MW-25	06/23/2016	51.32			56.43	3619.73	3568.41	-0.44
MW-25	09/29/2016	49.85			56.27	3619.73	3569.88	1.47
MW-25	12/21/2016	49.85			56.27	3619.73	3569.88	0.00
TW-H	03/24/2016	49.20	49.10	0.10	54.27	3622.30	3573.18	-0.05
TW-H	06/23/2016	51.78	49.61	2.17	NM	3622.30	3572.15	-1.03
TW-H	09/28/2016	50.60	48.55	2.05	NM	3622.30	3573.24	1.09
TW-H	12/21/2016	48.17			NM	3622.30	3574.13	0.89
TW-K	03/24/2016	NM				3628.95	NA	NA
TW-K	06/23/2016	Well Not Located - Presumed Destroyed						
TW-K	09/29/2016	Well Not Located - Presumed Destroyed						

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LEA COUNTY, NEW MEXICO

Location Identification	Date	Depth to Groundwater (feet)	Depth to Product (feet)	Free Phase Hydrocarbon Thickness (feet)	Total Depth (feet)	TOC Elevation (feet amsl)	Groundwater Elevation (*) (feet amsl)	Change in Groundwater Elevation Since Previous Event(1) (feet)
TW-K	12/21/2016	Well Not Located - Presumed Destroyed						
TW-N	03/24/2016	59.18	56.55	2.63	59.24	3631.98	3574.77	NA
TW-N	06/23/2016	Well was not accessible during groundwater monitoring event						
TW-N	12/21/2016	Well was not accessible during groundwater monitoring event						
TW-Q	06/03/2014	NM	NM	NM	NM	NM	NA	NA
TW-Q	09/24/2014	Well Not Located - Presumed Destroyed						
TW-T	03/24/2016	61.55	60.10	1.45	61.60	NM	NA	NA
TW-T	09/28/2016	Well Not Located - Presumed Destroyed						
TW-T	12/21/2016	Well Not Located - Presumed Destroyed						
TW-U	03/24/2016	63.95	60.80	3.15	63.92	NM	NA	NA
TW-U	06/23/2016	63.89	61.03	2.86	NM	NM	NA	NA
TW-U	09/28/2016	63.90	60.71	3.19	63.90	NM	NA	NA
TW-U	12/21/2016	63.73	60.27	3.46	63.90	NM	NA	NA
TW-V	03/23/2016	61.30			62.97	NM	NA	NA
TW-V	06/23/2016	61.53			NM	NM	NA	NA
TW-V	09/28/2016	61.14			NM	NM	NA	NA
TW-V	12/21/2016	60.63			NM	NM	NA	NA
TW-W	03/24/2016	61.71	58.10	3.61	61.90	NM	NA	NA
TW-W	06/23/2016	61.75	58.33	3.42	NM	NM	NA	NA
TW-W	09/28/2016	61.77	58.19	3.58	NM	NM	NA	NA
TW-W	12/21/2016	61.80	57.64	4.16	NM	NM	NA	NA
							Average change in groundwater elevation (9/28/2016 to 12/21/2016)	0.34

Notes:

1- Changes in groundwater elevation calculated by subtracting the measurement collected during the previous monitoring event from the measurement collected during the most recent monitoring event.

amsl = feet above mean sea level

TOC = top of casing

Groundwater elevation = (TOC Elevation - Measured Depth to Water)

* Groundwater elevation was corrected for product thickness using the following calculation, when applicable:

Groundwater elevation = (TOC Elevation - Measured Depth to Water) + (LNAPL Thickness in Well * LNAPL Relative Density)
LNAPL relative density is assumed to be approximately 0.75

NM = Not Measured

NA = Not Applicable

TD = Total Depth

** The depth to water reading collected from these wells are anomolous and assumed to be an error during field collection. Therefore, the change in groundwater elevation from the previous monitoring event was not calculated and/or used for the average change in groundwater elevation across the Site.

*** Monitoring well MW-12 has an active Spill Buster automatic LNAPL recovery pump installed. As such, the calculated groundwater elevations may not be representative of actual groundwater elevations within the well.

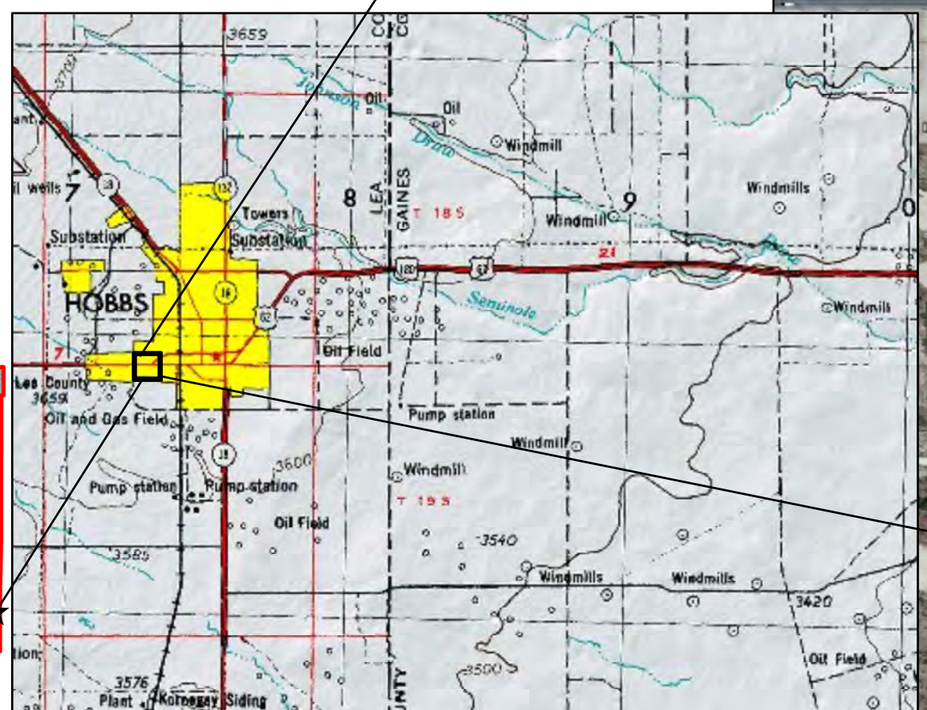
TABLE 2
FOURTH QUARTER 2016
SUMMARY OF BTEX CONCENTRATIONS IN GROUNDWATER
HOBBS BOOSTER STATION
LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-1	12/21/2016	LNAPL				Sampled Annually
MW-2	12/21/2016	LNAPL				Sampled Annually
MW-4	12/21/2016	NS	NS	NS	NS	Sampled Annually
MW-5	12/21/2016	NS	NS	NS	NS	Sampled Annually
MW-6	12/21/2016	NS	NS	NS	NS	Sampled Annually
MW-7	12/21/2016	DRY				Sampled Annually
MW-9	12/21/2016	LNAPL				Sampled Annually
MW-10	12/21/2016	LNAPL				Sampled Annually
MW-12	12/21/2016	NS	NS	NS	NS	Sampled Annually
MW-14	12/21/2016	**0.047**	<0.0010	<0.0010	<0.0010	Duplicate Sample Collected
MW-14 (Duplicate)	12/21/2016	**0.015**	<0.0010	<0.0010	<0.0010	
MW-15	12/21/2016	<0.0010	<0.0010	<0.0010	<0.0010	
MW-16	12/21/2016	<0.0010	<0.0010	<0.0010	<0.0010	
MW-17	12/21/2016	LNAPL				Sampled Annually
MW-18	12/21/2016	LNAPL				Sampled Annually
MW-19	12/21/2016	<0.0010	<0.0010	<0.0010	<0.0010	
MW-19D	12/21/2016	**0.11**	<0.0010	0.0036	<0.0010	
MW-20	12/21/2016	<0.0010	<0.0010	<0.0010	<0.0010	
MW-21	12/21/2016	<0.0010	<0.0010	<0.0010	<0.0010	
MW-22	12/21/2016	<0.0010	<0.0010	<0.0010	<0.0010	
MW-23	12/21/2016	0.0011	<0.0010	0.0015	0.0014	
MW-24	12/21/2016	<0.0010	<0.0010	<0.0010	<0.0010	
MW-25	12/21/2016	<0.0010	<0.0010	<0.0010	<0.0010	
Trip Blank	12/21/2016	<0.0010	<0.0010	<0.0010	<0.0010	

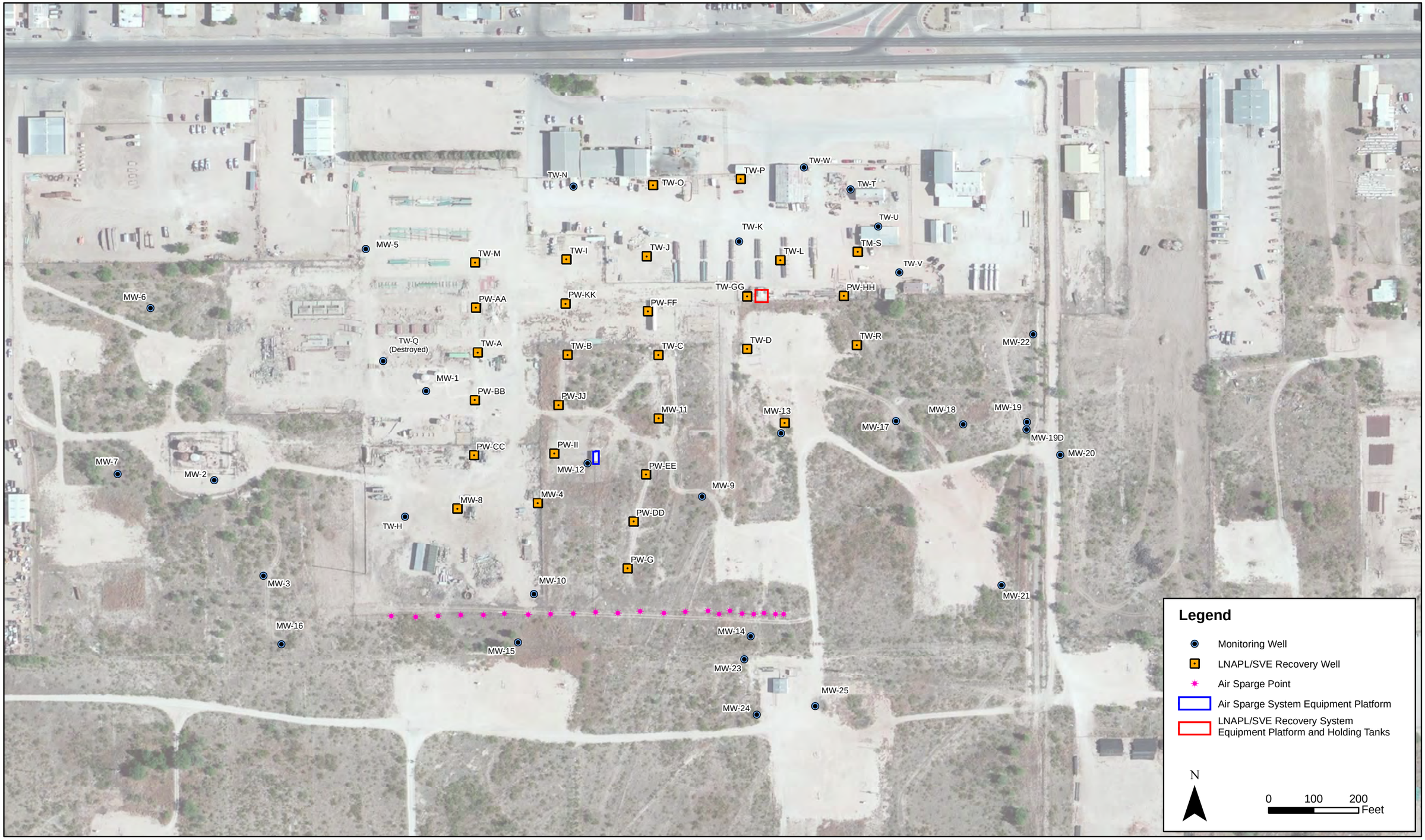
Notes:
Bold red values indicate an exceedance of the NMWQCC groundwater standards for the Site.
NMWQCC = New Mexico Water Quality Control Commission
LNAPL = light non-aqueous phase liquid
NS = Not Sampled
NM - Not Measured
mg/L = milligrams per liter

Figures

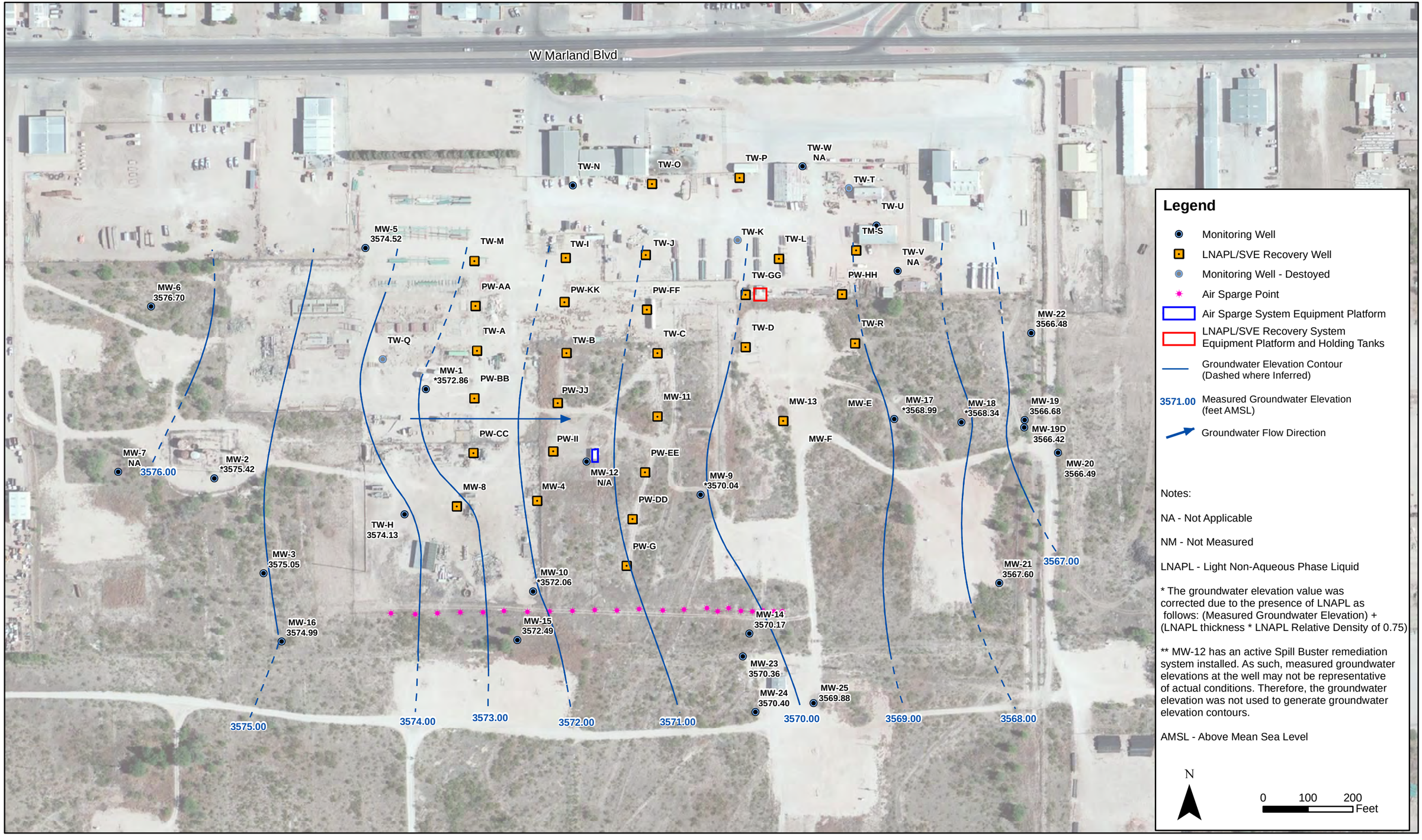
N



DATE: April 2015 DESIGNED BY: T. Johansen DRAWN BY: D. Arnold	TASMAN GEOSCIENCES **Tasman Geosciences, Inc.** **6899 Pecos Street - Unit C** **Denver, CO 80221**	**DCP Midstream** **Hobbs Booster Station** Units C and D, Section 4, Township 19 South, Range 38 East Lea County, New Mexico	Site Location Map	Figure 1



DATE: February 2017 DESIGNED BY: B.Humphrey DRAWN BY: D. Arnold	TASMAN GEOSCIENCES **Tasman Geosciences, Inc.** **6899 Pecos Street - Unit C** **Denver, CO 80221**	**DCP Midstream** **Hobbs Booster Station** Fourth Quarter 2016 Groundwater Monitoring Summary Report	Site Map with Monitoring Well Locations	Figure 2



Legend

- Monitoring Well
- LNAPL/SVE Recovery Well
- Monitoring Well - Destoyed
- Air Sparge Point
- Air Sparge System Equipment Platform
- LNAPL/SVE Recovery System Equipment Platform and Holding Tanks
- Groundwater Elevation Contour (Dashed where Inferred)
- 3571.00 Measured Groundwater Elevation (feet AMSL)
- Groundwater Flow Direction

Notes:

NA - Not Applicable

NM - Not Measured

LNAPL - Light Non-Aqueous Phase Liquid

* The groundwater elevation value was corrected due to the presence of LNAPL as follows: (Measured Groundwater Elevation) + (LNAPL thickness * LNAPL Relative Density of 0.75)

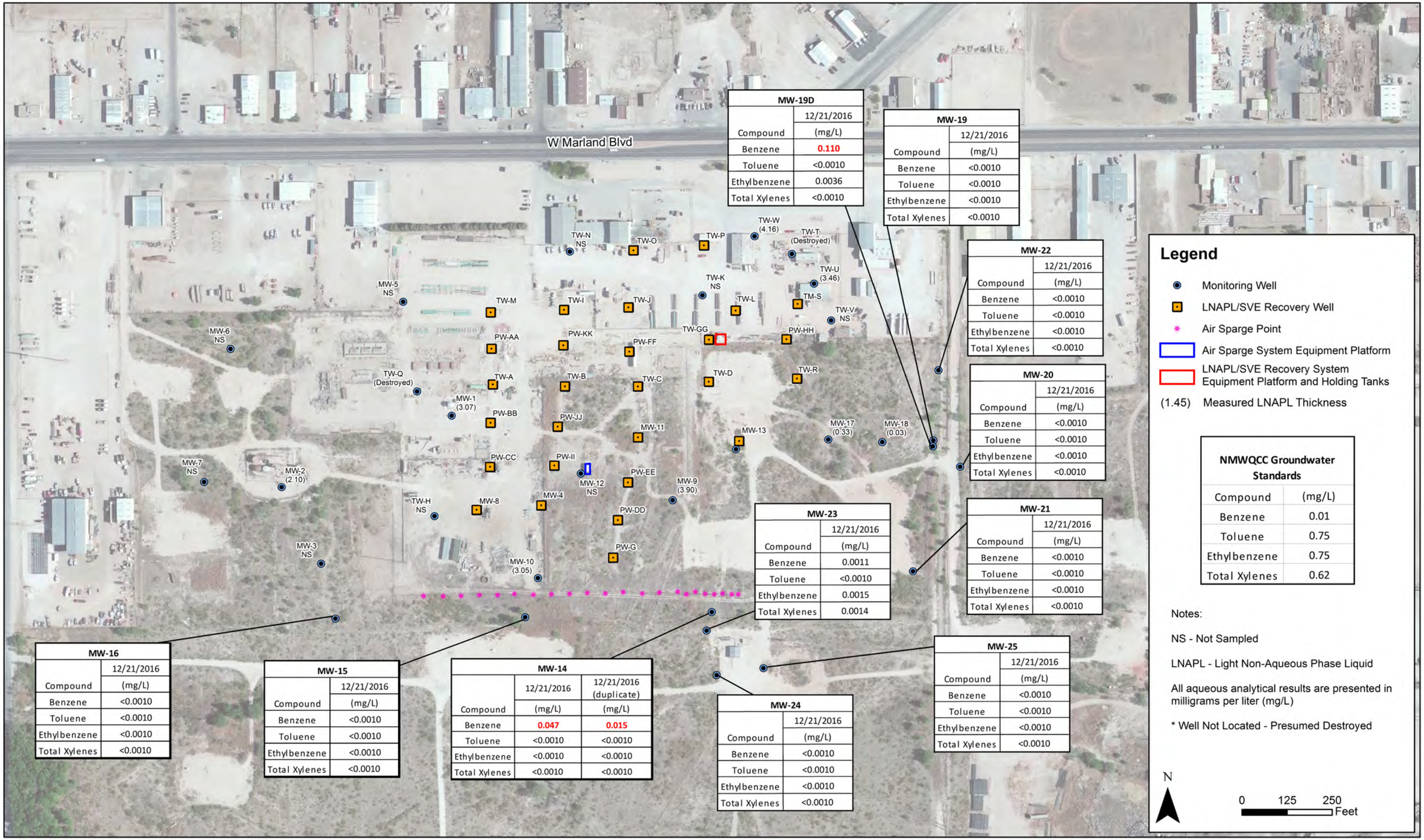
** MW-12 has an active Spill Buster remediation system installed. As such, measured groundwater elevations at the well may not be representative of actual conditions. Therefore, the groundwater elevation was not used to generate groundwater elevation contours.

AMSL - Above Mean Sea Level

N

0 100 200 Feet

DATE: November 2016 DESIGNED BY: B. Humphrey DRAWN BY: D. Arnold	TASMAN GEOSCIENCES **Tasman Geosciences, Inc.** **6899 Pecos Street - Unit C** **Denver, CO 80221**	**DCP Midstream** **Hobbs Booster Station** Fourth Quarter 2016 Groundwater Monitoring Summary Report	Groundwater Elevation Contour Map (December 21, 2016)	Figure 3



MW-19D

Compound	12/21/2016 (mg/L)
Benzene	0.110
Toluene	<0.0010
Ethylbenzene	0.0036
Total Xylenes	<0.0010

MW-19

Compound	12/21/2016 (mg/L)
Benzene	<0.0010
Toluene	<0.0010
Ethylbenzene	<0.0010
Total Xylenes	<0.0010

MW-22

Compound	12/21/2016 (mg/L)
Benzene	<0.0010
Toluene	<0.0010
Ethylbenzene	<0.0010
Total Xylenes	<0.0010

MW-20

Compound	12/21/2016 (mg/L)
Benzene	<0.0010
Toluene	<0.0010
Ethylbenzene	<0.0010
Total Xylenes	<0.0010

MW-23

Compound	12/21/2016 (mg/L)
Benzene	0.0011
Toluene	<0.0010
Ethylbenzene	0.0015
Total Xylenes	0.0014

MW-21

Compound	12/21/2016 (mg/L)
Benzene	<0.0010
Toluene	<0.0010
Ethylbenzene	<0.0010
Total Xylenes	<0.0010

MW-16

Compound	12/21/2016 (mg/L)
Benzene	<0.0010
Toluene	<0.0010
Ethylbenzene	<0.0010
Total Xylenes	<0.0010

MW-15

Compound	12/21/2016 (mg/L)
Benzene	<0.0010
Toluene	<0.0010
Ethylbenzene	<0.0010
Total Xylenes	<0.0010

MW-14

Compound	12/21/2016 (mg/L)	12/21/2016 (duplicate) (mg/L)
Benzene	0.047	0.015
Toluene	<0.0010	<0.0010
Ethylbenzene	<0.0010	<0.0010
Total Xylenes	<0.0010	<0.0010

MW-24

Compound	12/21/2016 (mg/L)
Benzene	<0.0010
Toluene	<0.0010
Ethylbenzene	<0.0010
Total Xylenes	<0.0010

MW-25

Compound	12/21/2016 (mg/L)
Benzene	<0.0010
Toluene	<0.0010
Ethylbenzene	<0.0010
Total Xylenes	<0.0010

Legend

- Monitoring Well
- LNAPL/SVE Recovery Well
- Air Sparge Point
- Air Sparge System Equipment Platform
- LNAPL/SVE Recovery System Equipment Platform and Holding Tanks
- (1.45) Measured LNAPL Thickness

NMWQCC Groundwater Standards

Compound	(mg/L)
Benzene	0.01
Toluene	0.75
Ethylbenzene	0.75
Total Xylenes	0.62

Notes:

NS - Not Sampled

LNAPL - Light Non-Aqueous Phase Liquid

All aqueous analytical results are presented in milligrams per liter (mg/L)

* Well Not Located - Presumed Destroyed

N

0 125 250 Feet

DATE: February 2017
DESIGNED BY: B. Humphrey
DRAWN BY: D. Cavinder

TASMAN GEOSCIENCES

Tasman Geosciences, Inc.
6899 Pecos Street - Unit C
Denver, CO 80221

DCP Midstream
Hobbs Booster Station
Fourth Quarter 2016 Groundwater Monitoring Summary Report

Analytical Results Map (December 21, 2016)

Figure 4

Appendix A

Historic Analytical Results

APPENDIX A
HISTORIC ANALYTICAL RESULTS
BTEX CONCENTRATIONS IN GROUNDWATER
HOBBS BOOSTER STATION
LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-1	09/15/2005	**0.017**	<0.002	0.047	0.066	
MW-1	02/27/2014	LNAPL				Sampled Annually
MW-1	06/03/2014	LNAPL				Sampled Annually
MW-1	09/24/2014	LNAPL				Annual Event
MW-1	12/03/2014	LNAPL				Sampled Annually
MW-1	02/25/2015	LNAPL				Sampled Annually
MW-1	06/03/2015	LNAPL				Sampled Annually
MW-1	09/01/2015	LNAPL				Annual Event
MW-1	12/16/2015	LNAPL				Sampled Annually
MW-1	03/24/2016	LNAPL				Sampled Annually
MW-1	06/23/2016	LNAPL				Sampled Annually
MW-1	09/28/2016	LNAPL				Sampled Annually
MW-1	12/21/2016	LNAPL				Sampled Annually
MW-2	02/27/2014	LNAPL				Sampled Annually
MW-2	06/03/2014	LNAPL				Sampled Annually
MW-2	09/24/2014	LNAPL				Annual Event
MW-2	12/03/2014	LNAPL				Sampled Annually
MW-2	02/25/2015	LNAPL				Sampled Annually
MW-2	06/03/2015	LNAPL				Sampled Annually
MW-2	09/01/2015	LNAPL				Annual Event
MW-2	12/16/2015	LNAPL				Sampled Annually
MW-2	03/24/2016	DRY				Sampled Annually
MW-2	06/23/2016	LNAPL				Sampled Annually
MW-2	09/29/2016	LNAPL				Sampled Annually
MW-2	12/21/2016	LNAPL				Sampled Annually
MW-3	09/14/2005	0.0025	<0.002	0.24	0.17	
MW-3	06/21/2006	0.0018	<0.002	0.14	0.089	
MW-3	06/27/2007	0.0012	<0.002	0.207	0.0977	
MW-3	09/21/2009	<0.002	<0.002	0.0123	0.0031	
MW-3	09/14/2010	<0.001	<0.002	0.0134	-	
MW-3	03/29/2011	NS	NS	NS	NS	
MW-3	09/16/2011	<0.001	<0.002	0.0246	0.0135	
MW-3	12/06/2011	NS	NS	NS	NS	
MW-3	03/09/2012	<0.001	<0.002	0.0019	<0.004	
MW-3	06/06/2012	NS	NS	NS	NS	
MW-3	09/06/2012	<0.001	<0.002	0.0022	0.0023	
MW-3	12/05/2012	NS	NS	NS	NS	
MW-3	02/19/2013	<0.001	<0.002	<0.002	<0.003	
MW-3	06/03/2013	NS	NS	NS	NS	
MW-3	09/10/2013	<0.001	<0.002	0.0023	<0.003	
MW-3	12/02/2013	NS	NS	NS	NS	
MW-3	02/27/2014	NS	NS	NS	NS	Sampled Annually
MW-3	06/03/2014	NS	NS	NS	NS	Sampled Annually
MW-3	09/22/2014	<0.001	<0.001	<0.001	<0.001	Annual Sample
MW-3	12/03/2014	NS	NS	NS	NS	Sampled Annually
MW-3	02/25/2015	NS	NS	NS	NS	Sampled Annually
MW-3	06/03/2015	NS	NS	NS	NS	Sampled Annually
MW-3	09/01/2015	<.0010	<.0010	<.0010	<.0030	Annual Sample
MW-3	12/16/2015	NS	NS	NS	NS	Sampled Annually
MW-3	03/24/2016	NS	NS	NS	NS	Sampled Annually
MW-3	06/23/2016	NS	NS	NS	NS	Sampled Annually

APPENDIX A
HISTORIC ANALYTICAL RESULTS
BTEX CONCENTRATIONS IN GROUNDWATER
HOBBS BOOSTER STATION
LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-3	09/29/2016	<.0010	<.0010	<.0010	<.0030	Annual Sample
MW-3	12/21/2016	NS	NS	NS	NS	Sampled Annually
MW-5	09/14/2005	<0.002	<0.002	<0.002	<0.006	
MW-5	06/21/2006	<0.002	<0.002	<0.002	<0.006	
MW-5	06/27/2007	<0.002	<0.002	<0.002	<0.006	
MW-5	09/21/2009	<0.002	<0.002	<0.002	<0.006	
MW-5	09/14/2010	<0.001	<0.002	<0.002	-	
MW-5	03/29/2011	NS	NS	NS	NS	
MW-5	09/15/2011	<0.001	<0.002	<0.002	<0.004	
MW-5	12/06/2011	NS	NS	NS	NS	
MW-5	03/09/2012	<0.001	<0.002	<0.002	<0.004	
MW-5	06/06/2012	NS	NS	NS	NS	
MW-5	09/06/2012	<0.001	<0.002	<0.002	<0.003	
MW-5	12/05/2012	NS	NS	NS	NS	
MW-5	02/19/2013	<0.001	<0.002	<0.002	<0.003	
MW-5	06/03/2013	NS	NS	NS	NS	
MW-5	09/10/2013	<0.001	<0.002	<0.002	<0.003	
MW-5	12/02/2013	NS	NS	NS	NS	
MW-5	02/27/2014	NS	NS	NS	NS	Sampled Annually
MW-5	06/03/2014	NS	NS	NS	NS	Sampled Annually
MW-5	09/22/2014	<0.001	<0.001	<0.001	<0.001	Annual Sample
MW-5	12/03/2014	NS	NS	NS	NS	Sampled Annually
MW-5	02/25/2015	NS	NS	NS	NS	Sampled Annually
MW-5	06/03/2015	NS	NS	NS	NS	Sampled Annually
MW-5	09/01/2015	<.0010	<.0010	<.0010	<.0030	Annual Sample
MW-5	12/16/2015	NS	NS	NS	NS	Sampled Annually
MW-5	03/24/2016	NS	NS	NS	NS	Sampled Annually
MW-5	06/23/2016	NS	NS	NS	NS	Sampled Annually
MW-5	09/29/2016	<.0010	<.0010	<.0010	<.0030	Annual Sample
MW-5	12/21/2016	NS	NS	NS	NS	Sampled Annually
MW-6	09/14/2005	<0.002	<0.002	<0.002	<0.006	
MW-6	06/21/2006	<0.002	<0.002	<0.002	<0.006	
MW-6	06/27/2007	<0.002	<0.002	<0.002	<0.006	
MW-6	09/21/2009	<0.002	<0.002	<0.002	<0.006	
MW-6	09/14/2010	<0.001	<0.002	<0.002	-	
MW-6	03/29/2011	NS	NS	NS	NS	
MW-6	09/16/2011	<0.001	<0.002	<0.002	<0.004	
MW-6	12/06/2011	NS	NS	NS	NS	
MW-6	03/09/2012	<0.001	<0.002	<0.002	<0.004	
MW-6	06/06/2012	NS	NS	NS	NS	
MW-6	09/06/2012	<0.001	<0.002	<0.002	<0.003	
MW-6	12/05/2012	NS	NS	NS	NS	
MW-6	02/19/2013	<0.001	<0.002	<0.002	<0.003	
MW-6	06/03/2013	NS	NS	NS	NS	
MW-6	09/10/2013	<0.001	<0.002	<0.002	<0.003	
MW-6	12/02/2013	NS	NS	NS	NS	
MW-6	02/27/2014	NS	NS	NS	NS	Sampled Annually
MW-6	06/03/2014	NS	NS	NS	NS	Sampled Annually
MW-6	09/22/2014	<0.001	<0.001	<0.001	<0.001	Annual Sample
MW-6	12/03/2014	NS	NS	NS	NS	Sampled Annually
MW-6	02/25/2015	NS	NS	NS	NS	Sampled Annually

APPENDIX A
HISTORIC ANALYTICAL RESULTS
BTEX CONCENTRATIONS IN GROUNDWATER
HOBBS BOOSTER STATION
LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-6	06/03/2015	NS	NS	NS	NS	Sampled Annually
MW-6	09/01/2015	<.0010	<.0010	<.0010	<.0030	Annual Sample
MW-6	12/16/2015	NS	NS	NS	NS	Sampled Annually
MW-6	03/24/2016	NS	NS	NS	NS	Sampled Annually
MW-6	06/23/2016	NS	NS	NS	NS	Sampled Annually
MW-6	09/29/2016	<.0010	<.0010	<.0010	<.0030	Annual Sample
MW-6	12/21/2016	NS	NS	NS	NS	Sampled Annually
MW-7	06/21/2006	<0.002	<0.002	<0.002	<0.006	
MW-7	06/27/2007	<0.002	<0.002	<0.002	<0.006	
MW-7	03/09/2009	<0.002	<0.002	<0.002	<0.006	
MW-7	09/21/2009	<0.002	<0.002	<0.002	<0.006	
MW-7	09/29/2010	<0.001	<0.002	<0.002	-	
MW-7	03/29/2011	NS	NS	NS	NS	
MW-7	09/16/2011	NS	NS	NS	NS	
MW-7	12/06/2011	NS	NS	NS	NS	
MW-7	03/09/2012	<0.001	<0.002	<0.002	<0.004	Sampled Annually
MW-7	06/06/2012	NS	NS	NS	NS	Sampled Annually
MW-7	09/06/2012	NS	NS	NS	NS	Insufficient water to sample
MW-7	12/05/2012	NS	NS	NS	NS	Sampled Annually
MW-7	02/19/2013	NS	NS	NS	NS	Sampled Annually
MW-7	06/03/2013	NS	NS	NS	NS	Sampled Annually
MW-7	09/10/2013	NS	NS	NS	NS	Insufficient water to sample
MW-7	12/02/2013	NS	NS	NS	NS	Sampled Annually
MW-7	02/27/2014	NS	NS	NS	NS	Sampled Annually
MW-7	06/03/2014	NS	NS	NS	NS	Sampled Annually
MW-7	09/22/2014	Dry				Annual Event
MW-7	12/03/2014	Dry				Sampled Annually
MW-7	02/25/2015	Dry				Sampled Annually
MW-7	06/03/2015	Dry				Sampled Annually
MW-7	09/01/2015	Dry				Annual Event
MW-7	12/16/2015	Dry				Sampled Annually
MW-7	03/24/2016	Dry				Sampled Annually
MW-7	06/23/2016	DRY				Sampled Annually
MW-7	09/28/2016	DRY				Sampled Annually
MW-7	12/21/2016	DRY				Sampled Annually
MW-9	02/27/2014	LNAPL				Sampled Annually
MW-9	06/03/2014	LNAPL				Sampled Annually
MW-9	09/24/2014	LNAPL				Annual Event
MW-9	12/03/2014	LNAPL				Sampled Annually
MW-9	02/25/2015	LNAPL				Sampled Annually
MW-9	06/03/2015	LNAPL				Sampled Annually
MW-9	09/01/2015	LNAPL				Annual Event
MW-9	12/16/2015	LNAPL				Sampled Annually
MW-9	03/24/2016	LNAPL				Sampled Annually
MW-9	06/23/2016	LNAPL				Sampled Annually
MW-9	09/28/2016	LNAPL				Sampled Annually
MW-9	12/21/2016	LNAPL				Sampled Annually
MW-10	06/21/2006	**0.62**	0.0195	0.19	0.26	
MW-10	06/27/2007	**0.42**	0.0037	0.221	0.31	
MW-10	09/21/2009	**0.0813**	<0.002	0.343	0.0115	
MW-10	09/14/2010	**0.123**	<0.002	0.274	-	

APPENDIX A
HISTORIC ANALYTICAL RESULTS
BTEX CONCENTRATIONS IN GROUNDWATER
HOBBS BOOSTER STATION
LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-10	03/29/2011	NS	NS	NS	NS	
MW-10	09/16/2011	**0.213**	<0.002	0.135	<0.02	Duplicate sample collected
MW-10	12/06/2011	NS	NS	NS	NS	
MW-10	03/09/2012	NS	NS	NS	NS	
MW-10	06/06/2012	NS	NS	NS	NS	
MW-10	09/06/2012	NS	NS	NS	NS	
MW-10	12/05/2012	NS	NS	NS	NS	
MW-10	02/19/2013	LNAPL				
MW-10	06/03/2013	LNAPL				
MW-10	09/10/2013	LNAPL				
MW-10	12/02/2013	LNAPL				
MW-10	02/27/2014	LNAPL				Sampled Annually
MW-10	06/03/2014	LNAPL				Sampled Annually
MW-10	09/24/2014	LNAPL				Annual Event
MW-10	12/03/2014	LNAPL				Sampled Annually
MW-10	02/25/2015	LNAPL				Sampled Annually
MW-10	06/03/2015	LNAPL				Sampled Annually
MW-10	09/01/2015	LNAPL				Annual Event
MW-10	12/16/2015	LNAPL				Sampled Annually
MW-10	03/24/2016	LNAPL				Sampled Annually
MW-10	06/23/2016	NS	NS	NS	NS	Sampled Annually
MW-10	09/28/2016	LNAPL				Sampled Annually
MW-10	12/21/2016	LNAPL				Sampled Annually
MW-12	02/27/2014	LNAPL				Sampled Annually
MW-12	06/03/2014	LNAPL				Sampled Annually
MW-12	09/22/2014	LNAPL				Annual Event
MW-12	12/03/2014	LNAPL				Sampled Annually
MW-12	02/25/2015	LNAPL				Sampled Annually
MW-12	06/03/2015	LNAPL				Sampled Annually
MW-12	09/01/2015	LNAPL				Annual Event
MW-12	12/16/2015	LNAPL				Sampled Annually
MW-12	03/24/2016	LNAPL				Sampled Annually
MW-12	06/23/2016	NS	NS	NS	NS	Sampled Annually
MW-12	12/21/2016	NS	NS	NS	NS	Sampled Annually
MW-14	03/23/2005	**0.085**	<0.001	0.024	0.0043	
MW-14	06/08/2005	**0.48**	0.0041	0.073	0.013	
MW-14	09/14/2005	**0.077**	<0.002	0.0088	<2.0	
MW-14	12/13/2005	**0.045**	<0.002	0.0099	0.003	
MW-14	03/28/2006	**0.022**	<0.002	0.0068	0.0026	
MW-14	06/21/2006	**0.014**	0.00095	0.005	0.0042	
MW-14	09/27/2006	**0.18**	0.014	0.015	0.026	
MW-14	12/20/2006	**0.5**	0.020	0.029	0.059	
MW-14	03/29/2007	**0.881**	0.0115	0.0368	0.0809	
MW-14	06/27/2007	**1.11**	0.0100	0.0421	0.104	
MW-14	09/06/2007	**0.603**	0.00088	0.0194	0.0243	
MW-14	11/28/2007	**0.431**	<0.0027	0.0155	0.0075	
MW-14	03/06/2008	**0.627**	0.04	0.0372	0.0228	
MW-14	12/02/2008	**0.38**	<0.002	0.0172	<0.0014	
MW-14	03/09/2009	**0.341**	<0.002	0.017	<0.0014	
MW-14	05/26/2009	**0.285**	<0.01	0.0104	<0.0068	
MW-14	09/21/2009	**0.205**	<0.002	0.008	<0.0017	

APPENDIX A
HISTORIC ANALYTICAL RESULTS
BTEX CONCENTRATIONS IN GROUNDWATER
HOBBS BOOSTER STATION
LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-14	12/20/2009	**0.165**	<0.002	0.0037	<0.0017	
MW-14	03/09/2010	<0.40	<0.002	<1.0	-	
MW-14	06/14/2010	**0.081**	<0.002	0.0017	-	
MW-14	09/14/2010	**0.11**	<0.002	0.0024	-	
MW-14	12/07/2010	**0.118**	<0.002	0.002	-	
MW-14	03/29/2011	**0.0901**	0.0041	<0.002	<0.002	
MW-14	06/21/2011	**0.187**	<0.0010	0.0043	<0.0020	
MW-14	09/15/2011	**0.15**	<0.002	0.0024	<0.004	
MW-14	12/06/2011	**0.0787**	<0.002	0.0017	<0.004	Duplicate sample collected
MW-14	03/09/2012	**0.0523**	<0.002	0.00066	<0.004	
MW-14	06/06/2012	**0.0335**	<0.002	0.00064	<0.003	
MW-14	09/06/2012	**0.105**	<0.002	0.0012	<0.003	
MW-14	12/05/2012	**0.129**	<0.002	0.00081	<0.003	
MW-14	02/19/2013	**0.0603**	<0.002	0.00084	<0.003	
MW-14	06/03/2013	**0.0461**	<0.002	0.0012	<0.003	Duplicate sample collected
MW-14	09/10/2013	**0.0959**	<0.002	0.0016	<0.003	Duplicate A sample collected
MW-14	12/02/2013	**0.0636**	<0.002	0.0011	<0.003	Duplicate A sample collected
MW-14	02/27/2014	**0.1050**	<0.002	0.0012 J	0.0021 J	Duplicate sample collected
MW-14 - Duplicate	02/27/2014	**0.1170**	<0.002	0.0012 J	0.0022 J	
MW-14	06/03/2014	**0.0265**	<0.002	0.00084 J	<0.003	Duplicate sample collected
MW-14 - Duplicate	06/03/2014	**0.0209**	<0.002	0.00058 J	<0.003	
MW-14	09/23/2014	**0.100**	<0.001	0.00066 J	0.0026	Duplicate A Sample Collected
MW-14 (Duplicate)	09/23/2014	**0.0673**	<0.001	0.00064 J	0.0017	
MW-14	12/03/2014	**0.0186**	<0.001	<0.001	<0.003	Duplicate Sample Collected
MW-14 (Duplicate)	12/03/2014	**0.0216**	<0.001	0.00034 J	0.00081 J	
MW-14	02/25/2015	**0.0460**	<0.005	<0.005	<0.015	Duplicate Sample Collected
MW-14 (Duplicate)	02/25/2015	**0.0460**	<0.005	<0.005	<0.015	
MW-14	06/03/2015	0.0077	<0.001	<0.001	<0.003	Duplicate Sample Collected
MW-14 (Duplicate)	06/03/2015	**0.061**	<0.001	<0.001	0.0047	
MW-14	09/01/2015	**0.031**	<0.001	<0.001	<0.003	Duplicate Sample Collected
MW-14 (Duplicate)	09/01/2015	**0.062**	<0.001	<0.001	<0.003	
MW-14	12/16/2015	**0.12**	<0.001	<0.001	<0.003	Duplicate Sample Collected
MW-14 (Duplicate)	12/16/2015	**0.056**	<0.001	<0.001	<0.003	
MW-14	03/23/2016	**0.010**	<0.0010	<0.0010	<0.0030	Duplicate sample collected
MW-14 (Duplicate)	03/23/2016	**0.060**	<0.0010	<0.0010	<0.0030	
MW-14	06/23/2016	**0.010**	<0.0010	<0.0010	<0.0030	Duplicate Sample Collected
MW-14 (Duplicate)	06/23/2016	**0.017**	<0.0010	<0.0010	<0.0030	
MW-14	09/29/2016	**0.031**	<0.0010	<0.0010	<0.0030	Duplicate Sample Collected
MW-14 (Duplicate)	09/29/2016	**0.037**	<0.0010	<0.0010	<0.0030	
MW-14	12/21/2016	**0.047**	<0.0010	<0.0010	<0.0030	Duplicate Sample Collected
MW-14 (Duplicate)	12/21/2016	**0.015**	<0.0010	<0.0010	<0.0010	
MW-15	03/23/2005	<0.001	<0.002	<0.002	<0.006	
MW-15	06/08/2005	<0.001	<0.002	0.0034	<0.006	
MW-15	09/14/2005	<0.002	<0.002	0.0022	<0.006	
MW-15	12/13/2005	<0.002	<0.002	<0.002	<0.006	
MW-15	03/28/2006	<0.002	<0.002	0.0049	<0.006	
MW-15	06/21/2006	<0.002	<0.002	0.02	<0.006	
MW-15	09/27/2006	0.002	<0.002	<0.002	<0.006	
MW-15	12/20/2006	<0.002	<0.002	<0.002	<0.006	
MW-15	03/29/2007	0.0012	<0.002	0.0045	<0.006	
MW-15	06/27/2007	0.00042	<0.002	0.0014	<0.006	
MW-15	09/06/2007	<0.002	<0.002	<0.002	<0.006	

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Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-15	11/28/2007	<0.0012	<0.002	<0.002	<0.006	
MW-15	03/06/2008	<0.002	<0.002	<0.002	<0.006	
MW-15	12/02/2008	<0.002	<0.002	<0.002	<0.006	
MW-15	03/09/2009	<0.002	<0.002	<0.002	<0.006	
MW-15	05/26/2009	0.0024	<0.002	0.0413	<0.006	
MW-15	09/21/2009	0.0033	<0.002	0.0501	<0.006	
MW-15	12/20/2009	0.00093	<0.002	0.0137	<0.006	
MW-15	03/09/2010	0.0041	<0.002	0.099	-	
MW-15	06/14/2010	0.0055	<0.002	0.16	-	
MW-15	09/14/2010	0.00075	<0.002	0.0015	-	
MW-15	12/07/2010	<0.001	<0.002	0.0011	-	
MW-15	03/29/2011	<0.001	<0.002	0.0039	<0.002	
MW-15	06/21/2011	0.0048	<0.002	0.0124	<0.004	
MW-15	09/15/2011	0.0054	<0.002	0.0124	<0.004	
MW-15	12/06/2011	0.0053	<0.002	0.0106	<0.004	
MW-15	03/09/2012	0.0059	<0.002	0.0097	<0.004	Duplicate-1 sample collected
MW-15	06/06/2012	0.0041	<0.002	<0.002	<0.003	Duplicate sample collected
MW-15	09/06/2012	0.0033	<0.002	<0.002	<0.003	Duplicate-1 sample collected
MW-15	12/05/2012	0.0027	<0.002	<0.002	<0.003	Duplicate sample collected
MW-15	02/19/2013	0.0020	<0.002	<0.002	<0.003	Duplicate A sample collected
MW-15	06/03/2013	0.0019	<0.002	<0.002	<0.003	
MW-15	09/10/2013	0.0022	<0.002	<0.002	<0.003	
MW-15	12/02/2013	0.0017	<0.002	<0.002	<0.003	
MW-15	02/27/2014	0.0021	<0.002	<0.002	<0.003	
MW-15	06/03/2014	0.0019	<0.002	<0.002	<0.003	
MW-15	09/22/2014	0.0027	<0.001	<0.001	<0.001	
MW-15	12/03/2014	0.0018	0.00031J	<0.001	<0.003	
MW-15	02/25/2015	0.0015	<0.001	0.0021	<0.003	
MW-15	06/03/2015	<0.001	<0.001	<0.001	<0.003	
MW-15	09/01/2015	<0.001	<0.001	<0.001	<0.003	
MW-15	12/16/2015	<0.001	<0.001	<0.001	<0.003	
MW-15	03/23/2016	0.0010	<0.0010	<0.0010	<0.0030	
MW-15	06/23/2016	0.0011	<0.0010	<0.0010	<0.0030	
MW-15	09/29/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-15 (Duplicate)	09/29/2016	<0.0010	<0.0010	<0.0010	<0.0030	Duplicate sample collected
MW-15	12/21/2016	<0.0010	<0.0010	<0.0010	<0.0010	
MW-16	03/23/2005	<0.001	<0.002	<0.002	<0.006	
MW-16	06/08/2005	<0.001	<0.002	<0.002	<0.006	
MW-16	09/14/2005	<0.002	<0.002	<0.002	<0.006	
MW-16	12/13/2005	<0.002	<0.002	<0.002	<0.006	
MW-16	03/28/2006	<0.002	<0.002	<0.002	<0.006	
MW-16	06/21/2006	<0.002	<0.002	<0.002	<0.006	
MW-16	09/27/2006	<0.002	<0.002	<0.002	<0.006	
MW-16	12/20/2006	<0.002	<0.002	<0.002	<0.006	
MW-16	03/29/2007	0.00043	<0.002	<0.002	<0.006	
MW-16	06/27/2007	<0.002	<0.002	<0.002	<0.006	
MW-16	09/06/2007	<0.002	<0.002	<0.002	<0.006	
MW-16	11/28/2007	<0.0012	<0.002	<0.002	<0.006	
MW-16	03/06/2008	<0.002	<0.002	<0.002	<0.006	
MW-16	12/02/2008	<0.002	<0.002	<0.002	<0.006	
MW-16	03/09/2009	<0.002	<0.002	<0.002	<0.006	

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Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-16	05/26/2009	<0.002	<0.002	<0.002	<0.006	
MW-16	09/21/2009	<0.002	<0.002	<0.002	<0.006	
MW-16	12/20/2009	<0.002	<0.002	<0.002	<0.006	
MW-16	03/09/2010	<0.001	<0.002	0.0028	-	
MW-16	06/14/2010	<0.001	<0.002	<0.30	-	
MW-16	09/14/2010	<0.001	<0.002	<0.00030	-	
MW-16	12/07/2010	<0.001	<0.002	<0.00030	-	
MW-16	03/29/2011	<0.001	<0.002	<0.002	<0.002	
MW-16	06/21/2011	<0.001	<0.002	<0.002	<0.004	
MW-16	09/15/2011	<0.001	<0.002	<0.002	<0.004	
MW-16	12/06/2011	<0.001	<0.002	<0.002	<0.004	
MW-16	03/09/2012	<0.001	<0.002	<0.002	<0.004	
MW-16	06/06/2012	<0.001	<0.002	<0.002	<0.003	
MW-16	09/06/2012	<0.001	<0.002	<0.002	<0.003	
MW-16	12/05/2012	<0.001	<0.002	<0.002	<0.003	
MW-16	02/19/2013	<0.001	<0.002	<0.002	<0.003	
MW-16	06/03/2013	<0.001	<0.002	<0.002	<0.003	
MW-16	09/10/2013	<0.001	<0.002	<0.002	<0.003	
MW-16	12/02/2013	<0.001	<0.002	<0.002	<0.003	
MW-16	02/27/2014	<0.001	<0.002	<0.002	<0.003	
MW-16	06/03/2014	<0.001	<0.002	<0.002	<0.003	
MW-16	09/23/2014	<0.001	<0.001	<0.001	<0.001	MS/MSD Collected
MW-16	12/03/2014	<0.001	<0.001	<0.001	<0.003	MS/MSD Collected
MW-16	02/25/2015	<0.001	<0.001	<0.001	<0.003	
MW-16	06/03/2015	<0.001	<0.001	<0.001	<0.003	
MW-16	09/01/2015	<0.001	<0.001	<0.001	<0.003	
MW-16	12/16/2015	<0.001	<0.001	<0.001	<0.003	
MW-16	03/23/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-16	06/23/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-16	09/29/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-16	12/21/2016	<0.0010	<0.0010	<0.0010	<0.0010	
MW-17	02/27/2014	LNAPL				Sampled Annually
MW-17	06/03/2014	LNAPL				Sampled Annually
MW-17	09/24/2014	LNAPL				Annual Event
MW-17	12/03/2014	LNAPL				Sampled Annually
MW-17	06/03/2015	LNAPL				Sampled Annually
MW-17	09/01/2015	LNAPL				Sample Event
MW-17	12/16/2015	LNAPL				Sampled Annually
MW-17	03/24/2016	LNAPL				Sampled Annually
MW-17	06/23/2016	LNAPL				Sampled Annually
MW-17	09/28/2016	LNAPL				Sampled Annually
MW-17	12/21/2016	LNAPL				Sampled Annually
MW-18	06/21/2006	**0.013**	0.0017	0.031	0.023	
MW-18	06/27/2007	**0.0214**	0.0016	0.0475	0.0178	
MW-18	12/02/2008	**0.0216**	<0.002	0.0221	0.0183	
MW-18	09/21/2009	**0.0445**	<0.002	0.0297	0.0264	
MW-18	02/27/2014	LNAPL				Sampled Annually
MW-18	06/03/2014	LNAPL				Sampled Annually
MW-18	09/24/2014	LNAPL				Annual Event
MW-18	12/03/2014	LNAPL				Sampled Annually
MW-18	06/03/2015	LNAPL				Sampled Annually

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HOBBS BOOSTER STATION
LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-18	09/01/2015	LNAPL				Sample Event
MW-18	12/16/2015	LNAPL				Sampled Annually
MW-18	03/24/2016	NS	NS	NS	NS	Sampled Annually
MW-18	06/23/2016	NS	NS	NS	NS	Sampled Annually
MW-18	09/28/2016	NS	NS	NS	NS	Sampled Annually
MW-18	12/21/2016	LNAPL				Sampled Annually
MW-19	03/23/2005	0.0019	<0.002	<0.002	<0.006	
MW-19	06/08/2005	0.0012	0.0720	<0.002	<0.006	
MW-19	09/14/2005	<0.002	<0.002	<0.002	<0.006	
MW-19	12/13/2005	<0.002	<0.002	<0.002	<0.006	
MW-19	03/28/2006	<0.002	<0.002	<0.002	<0.006	
MW-19	06/21/2006	<0.002	<0.002	<0.002	<0.006	
MW-19	12/20/2006	0.0007	<0.002	<0.002	<0.006	
MW-19	03/29/2007	0.00075	<0.002	<0.002	<0.006	
MW-19	06/27/2007	0.00071	<0.002	<0.002	<0.006	
MW-19	09/06/2007	0.00053	<0.002	<0.002	<0.006	
MW-19	11/28/2007	0.00054	<0.002	<0.002	<0.006	
MW-19	03/06/2008	0.00054	<0.002	<0.002	<0.006	
MW-19	12/02/2008	<0.002	<0.002	<0.002	<0.006	
MW-19	03/09/2009	<0.002	<0.002	<0.002	<0.006	
MW-19	05/26/2009	<0.002	<0.002	<0.002	<0.006	
MW-19	09/21/2009	<0.002	<0.002	<0.002	<0.006	
MW-19	12/20/2009	<0.002	<0.002	<0.002	<0.006	
MW-19	03/09/2010	0.0009	<0.002	<1.0	-	
MW-19	06/14/2010	0.00051	<0.002	<0.30	-	
MW-19	09/14/2010	0.00036	<0.002	<0.002	-	
MW-19	12/07/2010	<0.001	<0.002	0.00068	-	
MW-19	03/29/2011	<0.001	<0.002	<0.002	<0.002	
MW-19	06/21/2011	<0.001	<0.002	<0.002	<0.004	
MW-19	09/15/2011	<0.001	<0.002	<0.002	<0.004	
MW-19	12/06/2011	<0.001	<0.002	<0.002	<0.004	
MW-19	03/09/2012	<0.001	<0.002	<0.002	<0.004	
MW-19	06/06/2012	<0.001	<0.002	<0.002	<0.003	
MW-19	09/06/2012	<0.001	<0.002	<0.002	<0.003	
MW-19	12/05/2012	<0.001	<0.002	<0.002	<0.003	
MW-19	02/19/2013	<0.001	<0.002	<0.002	<0.003	
MW-19	06/03/2013	<0.001	<0.002	<0.002	<0.003	
MW-19	09/10/2013	<0.001	<0.002	<0.002	<0.003	
MW-19	12/02/2013	<0.001	<0.002	<0.002	<0.003	
MW-19	02/27/2014	<0.001	<0.002	<0.002	<0.003	
MW-19	06/03/2014	<0.001	<0.002	<0.002	<0.003	
MW-19	09/23/2014	<0.001	<0.001	<0.001	<0.001	
MW-19	12/03/2014	<0.001	<0.001	<0.001	<0.003	
MW-19	02/25/2015	<0.001	<0.001	<0.001	<0.003	
MW-19	06/03/2015	<0.001	<0.001	<0.001	<0.003	
MW-19	09/01/2015	<0.001	<0.001	<0.001	<0.003	
MW-19	12/16/2015	<0.001	<0.001	<0.001	<0.003	
MW-19	03/23/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-19	06/23/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-19	09/29/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-19	12/21/2016	<0.0010	<0.0010	<0.0010	<0.0010	

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LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-19S	09/27/2006	<0.23	<0.54	<0.48	<1.1	
MW-19S	Well Not On Sampling Plan					
MW-19D	03/23/2005	0.00073	<0.002	<0.002	<0.006	
MW-19D	06/08/2005	0.0011	0.0012	<0.002	<0.006	
MW-19D	09/14/2005	<0.002	<0.002	<0.002	<0.006	
MW-19D	12/13/2005	<0.002	<0.002	<0.002	<0.006	
MW-19D	03/28/2006	<0.002	<0.002	<0.002	<0.006	
MW-19D	06/21/2006	0.0011	<0.002	<0.002	<0.006	
MW-19D	09/27/2006	<0.002	<0.002	<0.002	<0.006	
MW-19D	12/20/2006	0.0018	<0.002	0.00074	<0.006	
MW-19D	03/29/2007	0.0007	<0.002	<0.002	<0.006	
MW-19D	06/27/2007	0.00074	<0.002	<0.002	<0.006	
MW-19D	09/06/2007	0.00072	<0.002	<0.002	<0.006	
MW-19D	11/28/2007	0.00093	<0.002	<0.002	<0.006	
MW-19D	03/06/2008	0.001	<0.002	<0.002	<0.006	
MW-19D	12/02/2008	0.0016	<0.002	<0.002	<0.006	
MW-19D	03/09/2009	<0.002	<0.002	<0.002	<0.006	
MW-19D	05/26/2009	0.00074	<0.002	<0.002	<0.006	
MW-19D	09/21/2009	0.0011	<0.002	<0.002	<0.006	
MW-19D	12/20/2009	0.0009	<0.002	<0.002	<0.006	
MW-19D	03/09/2010	0.0009	<0.002	<0.002	-	
MW-19D	06/14/2010	0.00037	<0.002	<0.002	-	
MW-19D	09/14/2010	0.00086	<0.002	<0.002	-	
MW-19D	12/07/2010	0.00085	<0.002	<0.002	-	
MW-19D	03/29/2011	<0.001	<0.002	<0.002	<0.002	
MW-19D	06/21/2011	.0006 J	<0.002	<0.002	<0.004	
MW-19D	09/15/2011	0.0014	<0.002	<0.002	<0.004	
MW-19D	12/06/2011	0.0015	<0.002	<0.002	<0.004	
MW-19D	03/09/2012	0.0015	<0.002	<0.002	<0.004	Duplicate-2 sample collected
MW-19D	06/06/2012	0.00079	<0.002	<0.002	<0.003	
MW-19D	09/06/2012	0.00072	<0.002	<0.002	<0.003	Duplicate-2 sample collected
MW-19D	12/05/2012	0.0030	<0.002	0.00069	<0.003	
MW-19D	02/19/2013	0.0086	<0.002	0.0045	<0.003	Duplicate B sample collected
MW-19D	06/03/2013	0.00073	<0.002	0.0064	<0.003	
MW-19D	09/10/2013	0.00054	<0.002	0.00087	<0.003	Duplicate B sample collected
MW-19D	12/02/2013	0.00057	<0.002	<0.002	<0.003	
MW-19D	02/27/2014	0.00059 J	<0.002	<0.002	<0.003	
MW-19D	06/03/2014	0.00220	<0.002	<0.002	<0.003	
MW-19D	09/23/2014	0.0076	<0.001	0.0022	<0.001	
MW-19D	12/03/2014	0.0054	<0.001	0.0042	<0.003	
MW-19D	02/25/2015	<0.001	<0.001	0.0031	<0.003	
MW-19D	06/03/2015	<0.001	<0.001	<0.001	<0.003	
MW-19D	09/01/2015	<0.001	<0.001	<0.001	<0.003	
MW-19D	12/16/2015	0.0065	<0.001	<0.001	<0.003	
MW-19D	03/23/2016	0.013	<0.0010	0.0057	<0.0030	
MW-19D	06/23/2016	**0.048**	<0.0010	0.0096	<0.0030	
MW-19D	09/29/2016	**0.046**	<0.0050	0.016	<0.015	
MW-19D	12/21/2016	**0.11**	<0.0010	0.0036	<0.0010	
MW-20	03/23/2005	<0.001	<0.002	<0.002	<0.006	
MW-20	06/08/2005	<0.001	<0.002	<0.002	<0.006	
MW-20	09/14/2005	<0.002	<0.002	<0.002	<0.006	

APPENDIX A
HISTORIC ANALYTICAL RESULTS
BTEX CONCENTRATIONS IN GROUNDWATER
HOBBS BOOSTER STATION
LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-20	12/13/2005	<0.002	<0.002	<0.002	<0.006	
MW-20	03/28/2006	<0.002	<0.002	<0.002	<0.006	
MW-20	06/21/2006	<0.002	<0.002	<0.002	<0.006	
MW-20	09/27/2006	<0.002	<0.002	<0.002	<0.006	
MW-20	12/20/2006	0.00028	<0.002	<0.002	<0.006	
MW-20	03/29/2007	<0.002	<0.002	<0.002	<0.006	
MW-20	06/27/2007	<0.002	<0.002	<0.002	<0.006	
MW-20	09/06/2007	<0.002	<0.002	<0.002	<0.006	
MW-20	11/28/2007	<0.002	<0.002	<0.002	<0.006	
MW-20	03/06/2008	<0.002	<0.002	<0.002	<0.006	
MW-20	12/02/2008	<0.002	<0.002	<0.002	<0.006	
MW-20	03/09/2009	<0.002	<0.002	<0.002	<0.006	
MW-20	05/26/2009	<0.002	<0.002	<0.002	<0.006	
MW-20	09/21/2009	<0.002	<0.002	<0.002	<0.006	
MW-20	12/20/2009	<0.002	<0.002	<0.002	<0.006	
MW-20	03/09/2010	<0.001	<0.002	<0.002	-	
MW-20	06/14/2010	<0.001	<0.002	<0.002	-	
MW-20	09/14/2010	<0.001	<0.002	<0.002	-	
MW-20	12/07/2010	<0.001	<0.002	<0.002	-	
MW-20	03/29/2011	<0.001	<0.002	<0.002	<0.002	
MW-20	06/21/2011	<0.001	<0.002	<0.002	<0.004	
MW-20	09/15/2011	<0.001	<0.002	<0.002	<0.004	
MW-20	12/06/2011	<0.001	<0.002	<0.002	<0.004	
MW-20	03/09/2012	0.00033	<0.002	<0.002	<0.004	
MW-20	06/06/2012	<0.001	<0.002	<0.002	<0.003	
MW-20	09/06/2012	<0.001	<0.002	<0.002	<0.003	
MW-20	12/05/2012	<0.001	<0.002	<0.002	<0.003	
MW-20	02/19/2013	<0.001	<0.002	<0.002	<0.003	
MW-20	06/03/2013	<0.001	<0.002	<0.002	<0.003	
MW-20	09/10/2013	<0.001	<0.002	<0.002	<0.003	
MW-20	12/02/2013	<0.001	<0.002	<0.002	<0.003	
MW-20	02/27/2014	<0.001	<0.002	<0.002	<0.003	
MW-20	06/03/2014	<0.001	<0.002	<0.002	<0.003	
MW-20	09/23/2014	<0.001	<0.001	<0.001	<0.001	
MW-20	12/03/2014	<0.001	<0.001	<0.001	<0.003	
MW-20	02/25/2015	<0.001	<0.001	<0.001	<0.003	
MW-20	06/03/2015	<0.001	<0.001	<0.001	<0.003	
MW-20	09/01/2015	<0.001	<0.001	<0.001	<0.003	
MW-20	12/16/2015	<0.001	<0.001	<0.001	<0.003	
MW-20	03/23/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-20	06/23/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-20	09/29/2016	0.0013	<0.0010	<0.0010	<0.0030	
MW-20	12/21/2016	<0.0010	<0.0010	<0.0010	<0.0010	
MW-21	03/23/2005	<0.001	<0.002	<0.002	<0.006	
MW-21	06/08/2005	<0.001	<0.002	<0.002	<0.006	
MW-21	09/14/2005	<0.002	<0.002	<0.002	<0.006	
MW-21	12/13/2005	<0.002	<0.002	<0.002	<0.006	
MW-21	03/28/2006	<0.002	<0.002	<0.002	<0.006	
MW-21	06/21/2006	<0.002	<0.002	<0.002	<0.006	
MW-21	09/27/2006	<0.002	<0.002	<0.002	<0.006	
MW-21	12/20/2006	<0.002	<0.002	<0.002	<0.006	

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Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-21	03/29/2007	<0.002	<0.002	<0.002	<0.006	
MW-21	06/27/2007	<0.002	<0.002	<0.002	<0.006	
MW-21	09/06/2007	<0.002	<0.002	<0.002	<0.006	
MW-21	11/28/2007	<0.00023	<0.002	<0.002	<0.006	
MW-21	03/06/2008	<0.002	<0.002	<0.002	<0.006	
MW-21	12/02/2008	<0.002	<0.002	<0.002	<0.006	
MW-21	03/09/2009	<0.002	<0.002	<0.002	<0.006	
MW-21	05/26/2009	<0.002	<0.002	<0.002	<0.006	
MW-21	09/21/2009	<0.002	<0.002	<0.002	<0.006	
MW-21	12/20/2009	<0.002	<0.002	<0.002	<0.006	
MW-21	03/09/2010	<0.001	<0.002	<0.002	-	
MW-21	06/14/2010	<0.001	<0.002	<0.002	-	
MW-21	09/14/2010	<0.001	<0.002	<0.002	-	
MW-21	12/07/2010	<0.001	<0.002	<0.002	-	
MW-21	03/29/2011	<0.001	<0.002	<0.002	<0.002	
MW-21	06/21/2011	<0.001	<0.002	<0.002	<0.004	
MW-21	09/15/2011	<0.001	<0.002	<0.002	<0.004	
MW-21	12/06/2011	<0.001	<0.002	<0.002	<0.004	
MW-21	03/09/2012	<0.001	<0.002	<0.002	<0.004	
MW-21	06/06/2012	<0.001	<0.002	<0.002	<0.003	
MW-21	09/06/2012	<0.001	<0.002	<0.002	<0.003	
MW-21	12/05/2012	<0.001	<0.002	<0.002	<0.003	
MW-21	02/19/2013	<0.001	<0.002	<0.002	<0.003	
MW-21	06/03/2013	<0.001	<0.002	<0.002	<0.003	
MW-21	09/10/2013	<0.001	<0.002	<0.002	<0.003	
MW-21	12/02/2013	<0.001	<0.002	<0.002	<0.003	
MW-21	02/27/2014	<0.001	<0.002	<0.002	<0.003	
MW-21	06/03/2014	<0.001	<0.002	<0.002	<0.003	
MW-21	09/22/2014	<0.001	<0.001	<0.001	<0.001	
MW-21	12/03/2014	<0.001	<0.001	<0.001	<0.003	
MW-21	02/25/2015	<0.001	<0.001	<0.001	<0.003	
MW-21	06/03/2015	<0.001	<0.001	<0.001	<0.003	
MW-21	09/01/2015	<0.001	<0.001	<0.001	<0.003	
MW-21	12/16/2015	<0.001	<0.001	<0.001	<0.003	
MW-21	03/23/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-21	06/23/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-21	09/29/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-21	12/21/2016	<0.0010	<0.0010	<0.0010	<0.0010	
MW-22	03/23/2005	0.0013	<0.002	<0.001	<0.006	
MW-22	06/08/2005	<0.001	0.0025	0.00730	<0.006	
MW-22	09/14/2005	0.0066	<0.002	<0.002	<0.006	
MW-22	12/13/2005	0.0059	<0.002	<0.002	<0.006	
MW-22	03/28/2006	0.006	<0.002	<0.002	<0.006	
MW-22	06/21/2006	0.0034	<0.002	<0.002	<0.006	
MW-22	09/27/2006	<0.002	<0.002	<0.002	<0.006	
MW-22	12/20/2006	0.00089	<0.002	<0.002	<0.006	
MW-22	03/29/2007	0.00067	<0.002	<0.002	<0.006	
MW-22	06/27/2007	0.00076	<0.002	<0.002	<0.006	
MW-22	09/06/2007	<0.002	<0.002	<0.002	<0.006	
MW-22	11/28/2007	0.001	<0.002	<0.002	<0.006	
MW-22	03/06/2008	0.0015	<0.002	<0.002	<0.006	

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Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-22	12/02/2008	0.0064	<0.002	<0.002	<0.006	
MW-22	03/09/2009	0.0048	<0.002	<0.002	<0.006	
MW-22	05/26/2009	0.0046	<0.002	<0.002	<0.006	
MW-22	09/21/2009	0.0026	<0.002	<0.002	<0.006	
MW-22	12/20/2009	0.0028	<0.002	<0.002	<0.006	
MW-22	03/29/2011	0.0034	<0.002	<0.002	0.0022	
MW-22	06/21/2011	0.0041	<0.002	.0005 J	<0.004	
MW-22	09/15/2011	0.0037	<0.002	<0.002	<0.004	
MW-22	12/06/2011	0.0028	<0.002	<0.002	<0.004	
MW-22	03/09/2012	0.0034	<0.002	0.00046	<0.004	
MW-22	06/06/2012	0.0031	<0.002	0.00045	<0.003	
MW-22	09/06/2012	0.0021	<0.002	<0.002	<0.003	
MW-22	12/05/2012	0.0033	<0.002	0.00055	0.0031	
MW-22	02/19/2013	0.0046	<0.002	0.0011	0.0043	
MW-22	06/03/2013	0.0054	<0.002	0.0010	0.0046	
MW-22	09/10/2013	0.0097	<0.002	0.0029	0.0058	
MW-22	12/02/2013	0.0087	<0.002	0.0008	0.0054	
MW-22	02/27/2014	**0.0122**	<0.002	0.00088 J	0.0061	
MW-22	06/03/2014	**0.0245**	<0.002	0.0010 J	0.0055	
MW-22	09/23/2014	**0.0626**	<0.001	0.0019	0.0092	Duplicate B Sample Collected
MW-22 (Duplicate)	09/23/2014	**0.0620**	<0.001	0.0029	0.0086	
MW-22	12/03/2014	**0.0764**	<0.001	0.0015	0.0089	
MW-22	02/25/2015	**0.0920**	<0.001	<0.001	0.0084	
MW-22	06/03/2015	**0.11**	<0.001	<0.001	0.0067	
MW-22	09/01/2015	**0.13**	<0.001	<0.001	0.0063	
MW-22	12/17/2015	**0.13**	<0.001	0.0015	0.0063	
MW-22	03/23/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-22	06/23/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-22	09/29/2016	0.0015	<0.0010	<0.0010	<0.0030	
MW-22	12/21/2016	<0.0010	<0.0010	<0.0010	<0.0010	
MW-23	12/02/2008	<0.002	<0.002	<0.002	<0.006	
MW-23	03/09/2009	0.00049	<0.002	<0.002	<0.006	
MW-23	05/26/2009	<0.002	<0.002	<0.002	<0.006	
MW-23	09/21/2009	<0.002	<0.002	<0.002	<0.006	
MW-23	12/20/2009	<0.002	<0.002	<0.002	<0.006	
MW-23	03/09/2010	<0.001	<0.002	<0.002	-	
MW-23	06/14/2010	<0.001	<0.002	<0.002	-	
MW-23	09/14/2010	<0.001	<0.002	<0.002	-	
MW-23	12/07/2010	<0.001	<0.002	<0.002	-	
MW-23	03/29/2011	<0.001	<0.002	<0.002	<0.002	
MW-23	06/21/2011	<0.001	<0.002	<0.002	<0.004	
MW-23	09/15/2011	<0.001	<0.002	<0.002	<0.004	
MW-23	12/06/2011	<0.001	<0.002	<0.002	<0.004	
MW-23	03/09/2012	<0.001	<0.002	<0.002	<0.004	
MW-23	06/06/2012	<0.001	<0.002	<0.002	<0.003	
MW-23	09/06/2012	<0.001	<0.002	<0.002	<0.003	
MW-23	12/05/2012	<0.001	<0.002	<0.002	<0.003	
MW-23	02/19/2013	<0.001	<0.002	<0.002	<0.003	
MW-23	06/03/2013	<0.001	<0.002	<0.002	<0.003	
MW-23	09/10/2013	<0.001	<0.002	<0.002	<0.003	
MW-23	12/02/2013	<0.001	<0.002	<0.002	<0.003	
MW-23	02/27/2014	<0.001	<0.002	<0.002	<0.003	

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Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-23	06/03/2014	<0.001	<0.002	<0.002	<0.003	
MW-23	09/22/2014	<0.001	<0.001	<0.001	<0.001	
MW-23	12/03/2014	0.0016	<0.001	0.00086 J	<0.003	
MW-23	02/25/2015	0.0084	<0.005	<0.005	<0.015	
MW-23	06/03/2015	0.0011	<0.001	<0.001	<0.003	
MW-23	09/01/2015	0.0015	<0.001	<0.001	<0.003	
MW-23	12/16/2015	0.0015	<0.001	<0.001	<0.003	
MW-23	03/23/2016	0.0014	<0.0010	0.0054	<0.0030	
MW-23	06/23/2016	**0.013**	<0.0010	0.012	0.0062	
MW-23	09/29/2016	**0.039**	<0.0050	0.020	<0.015	
MW-23	12/21/2016	0.0011	<0.0010	0.0015	0.0014	
MW-24	12/02/2008	<0.002	<0.002	<0.002	<0.006	
MW-24	03/09/2009	<0.002	<0.002	<0.002	<0.006	
MW-24	05/26/2009	<0.002	<0.002	<0.002	<0.006	
MW-24	09/21/2009	<0.002	<0.002	<0.002	<0.006	
MW-24	12/20/2009	<0.002	<0.002	<0.002	<0.006	
MW-24	03/09/2010	<0.001	<0.002	<0.002	-	
MW-24	06/14/2010	<0.001	<0.002	<0.002	-	
MW-24	09/14/2010	<0.001	<0.002	<0.002	-	
MW-24	12/07/2010	<0.001	<0.002	<0.002	-	
MW-24	03/29/2011	<0.001	<0.002	<0.002	<0.002	
MW-24	06/21/2011	<0.001	<0.002	<0.002	<0.004	
MW-24	09/15/2011	<0.001	<0.002	<0.002	<0.004	
MW-24	12/06/2011	<0.001	<0.002	<0.002	<0.004	
MW-24	03/09/2012	<0.001	<0.002	<0.002	<0.004	
MW-24	06/06/2012	<0.001	<0.002	<0.002	<0.003	
MW-24	09/06/2012	<0.001	<0.002	<0.002	<0.003	
MW-24	12/05/2012	<0.001	<0.002	<0.002	<0.003	
MW-24	02/19/2013	<0.001	<0.002	<0.002	<0.003	
MW-24	06/03/2013	<0.001	<0.002	<0.002	<0.003	
MW-24	09/10/2013	<0.001	<0.002	<0.002	<0.003	
MW-24	12/02/2013	<0.001	<0.002	<0.002	<0.003	
MW-24	02/27/2014	<0.001	<0.002	<0.002	<0.003	
MW-24	06/03/2014	<0.001	<0.002	<0.002	<0.003	
MW-24	09/22/2014	<0.001	<0.001	<0.001	<0.001	
MW-24	12/03/2014	<0.001	<0.001	<0.001	<0.003	
MW-24	02/25/2015	<0.001	<0.001	<0.001	<0.003	
MW-24	06/03/2015	<0.001	<0.001	<0.001	<0.003	
MW-24	09/01/2015	<0.001	<0.001	<0.001	<0.003	
MW-24	12/16/2015	<0.001	<0.001	<0.001	<0.003	
MW-24	03/23/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-24	06/23/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-24	09/29/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-24	12/21/2016	<0.0010	<0.0010	<0.0010	<0.0010	
MW-25	12/02/2008	<0.002	<0.002	<0.002	<0.006	
MW-25	03/09/2009	<0.002	<0.002	<0.002	<0.006	
MW-25	05/26/2009	<0.002	<0.002	<0.002	<0.006	
MW-25	09/21/2009	<0.002	<0.002	<0.002	<0.006	
MW-25	12/20/2009	<0.002	<0.002	<0.002	<0.006	
MW-25	03/09/2010	<0.001	<0.002	<0.002	-	
MW-25	06/14/2010	<0.001	<0.002	<0.002	-	

APPENDIX A
HISTORIC ANALYTICAL RESULTS
BTEX CONCENTRATIONS IN GROUNDWATER
HOBBS BOOSTER STATION
LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-25	09/14/2010	<0.001	<0.002	<0.002	-	
MW-25	12/07/2010	<0.001	<0.002	<0.002	-	
MW-25	03/29/2011	<0.001	<0.002	<0.002	<0.002	
MW-25	06/21/2011	<0.001	<0.002	<0.002	<0.004	
MW-25	09/15/2011	<0.001	<0.002	<0.002	<0.004	
MW-25	12/06/2011	<0.001	<0.002	<0.002	<0.004	
MW-25	03/09/2012	<0.001	<0.002	<0.002	<0.004	
MW-25	06/06/2012	<0.001	<0.002	<0.002	<0.003	
MW-25	09/06/2012	<0.001	<0.002	<0.002	<0.003	
MW-25	12/05/2012	<0.001	<0.002	<0.002	<0.003	
MW-25	02/19/2013	<0.001	<0.002	<0.002	<0.003	
MW-25	06/03/2013	<0.001	<0.002	<0.002	<0.003	
MW-25	09/10/2013	<0.001	<0.002	<0.002	<0.003	
MW-25	12/02/2013	<0.001	<0.002	<0.002	<0.003	
MW-25	02/27/2014	<0.001	<0.002	<0.002	<0.003	
MW-25	03/19/2008	0.0012	0.0015	<0.00045	<0.0014	
MW-25	09/22/2014	<0.001	<0.001	<0.001	<0.001	
MW-25	12/03/2014	<0.001	<0.001	<0.001	<0.003	
MW-25	02/25/2015	<0.001	<0.001	<0.001	<0.003	
MW-25	06/03/2015	<0.001	<0.001	<0.001	<0.003	
MW-25	09/01/2015	<0.001	<0.001	<0.001	<0.003	
MW-25	12/16/2015	<0.001	<0.001	<0.001	<0.003	
MW-25	03/23/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-25	06/23/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-25	09/29/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-25	12/21/2016	<0.0010	<0.0010	<0.0010	<0.0010	
Trip Blank	06/03/2014	<0.001	<0.002	<0.002	<0.003	
Trip Blank	09/22/2014	<0.001	<0.001	<0.001	<0.001	
Trip Blank	12/03/2014	<0.001	<0.001	<0.001	<0.003	
Trip Blank	02/25/2015	<0.001	<0.001	<0.001	<0.003	
Trip Blank	06/03/2015	<0.001	<0.001	<0.001	<0.003	
Trip Blank	09/01/2015	<0.001	<0.001	<0.001	<0.003	
Trip Blank	12/16/2015	<0.001	<0.001	<0.001	<0.003	
Trip Blank	03/23/2016	<0.0010	<0.0010	<0.0010	<0.0030	
Trip Blank	06/23/2016	<0.0010	<0.0010	<0.0010	<0.0030	
Trip Blank	09/29/2016	<0.0010	<0.0010	<0.0010	<0.0030	
Trip Blank	12/21/2016	<0.0010	<0.0010	<0.0010	<0.0010	

Notes:
Bold red values indicate an exceedance of the NMWQCC groundwater standards for the Site.
NMWQCC = New Mexico Water Quality Control Commission
LNAPL = Light Non-Aqueous Phase Liquid
J = Estimated Value
NS = Not Sampled
NM - Not Measured
mg/L = milligrams per liter

Appendix B

Laboratory Analytical Report

- ALS Job #: HS16121150

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

December 30, 2016

Brian Humphrey
Tasman Geosciences
6899 Pecos St
Unit C
Denver, CO 80221

Work Order: **HS16121150**

Laboratory Results for: **DCP Former Hobbs Booster Station**

Dear Brian,

ALS Environmental received 13 sample(s) on Dec 22, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Sonia West

Generated By: Dayna.Fisher
Sonia West
Project Manager

Client: Tasman Geosciences
Project: DCP Former Hobbs Booster Station
Work Order: HS16121150

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16121150-01	MW-14	Water		21-Dec-2016 11:10	22-Dec-2016 10:10	☐
HS16121150-02	MW-15	Water		21-Dec-2016 10:15	22-Dec-2016 10:10	☐
HS16121150-03	MW-16	Water		21-Dec-2016 09:40	22-Dec-2016 10:10	☐
HS16121150-04	MW-19	Water		21-Dec-2016 08:40	22-Dec-2016 10:10	☐
HS16121150-05	MW-19D	Water		21-Dec-2016 08:45	22-Dec-2016 10:10	☐
HS16121150-06	MW-20	Water		21-Dec-2016 08:50	22-Dec-2016 10:10	☐
HS16121150-07	MW-21	Water		21-Dec-2016 09:10	22-Dec-2016 10:10	☐
HS16121150-08	MW-22	Water		21-Dec-2016 08:00	22-Dec-2016 10:10	☐
HS16121150-09	MW-23	Water		21-Dec-2016 10:47	22-Dec-2016 10:10	☐
HS16121150-10	MW-24	Water		21-Dec-2016 10:48	22-Dec-2016 10:10	☐
HS16121150-11	MW-25	Water		21-Dec-2016 10:40	22-Dec-2016 10:10	☐
HS16121150-12	DUPLICATE	Water		21-Dec-2016 00:00	22-Dec-2016 10:10	☐
HS16121150-13	TRIP BLANK 121216-45	Water		21-Dec-2016 00:00	22-Dec-2016 10:10	☐

Client: Tasman Geosciences **CASE NARRATIVE**
Project: DCP Former Hobbs Booster Station
Work Order: HS16121150

GCMS Volatiles by Method SW8260

Batch ID: R287425

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R287115

Sample ID: **MW-14 (HS16121150-01MS/MSD)**
• The MS and/or MSD recovery was below the lower control limit.

Client: Tasman Geosciences
ANALYTICAL REPORT
Project: DCP Former Hobbs Booster Station
WorkOrder:HS16121150
Sample ID: MW-14
Lab ID:HS16121150-01
Collection Date: 21-Dec-2016 11:10
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Benzene	**0.047**		**0.0010**	**mg/L**	1	24-Dec-2016 13:25
Toluene	ND		0.0010	mg/L	1	24-Dec-2016 13:25
Ethylbenzene	ND		0.0010	mg/L	1	24-Dec-2016 13:25
Xylenes, Total	ND		0.0010	mg/L	1	24-Dec-2016 13:25
Surr: 1,2-Dichloroethane-d4	*83.8*		*71-125*	*%REC*	*1*	*24-Dec-2016 13:25*
Surr: 4-Bromofluorobenzene	*95.5*		*70-125*	*%REC*	*1*	*24-Dec-2016 13:25*
Surr: Dibromofluoromethane	*92.6*		*74-125*	*%REC*	*1*	*24-Dec-2016 13:25*
Surr: Toluene-d8	*100*		*75-125*	*%REC*	*1*	*24-Dec-2016 13:25*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
ANALYTICAL REPORT
Project: DCP Former Hobbs Booster Station
WorkOrder:HS16121150
Sample ID: MW-15
Lab ID:HS16121150-02
Collection Date: 21-Dec-2016 10:15
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Benzene	ND		0.0010	mg/L	1	24-Dec-2016 15:01
Toluene	ND		0.0010	mg/L	1	24-Dec-2016 15:01
Ethylbenzene	ND		0.0010	mg/L	1	24-Dec-2016 15:01
Xylenes, Total	ND		0.0010	mg/L	1	24-Dec-2016 15:01
Surr: 1,2-Dichloroethane-d4	*83.0*		*71-125*	*%REC*	*1*	*24-Dec-2016 15:01*
Surr: 4-Bromofluorobenzene	*94.6*		*70-125*	*%REC*	*1*	*24-Dec-2016 15:01*
Surr: Dibromofluoromethane	*92.2*		*74-125*	*%REC*	*1*	*24-Dec-2016 15:01*
Surr: Toluene-d8	*103*		*75-125*	*%REC*	*1*	*24-Dec-2016 15:01*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP Former Hobbs Booster Station
Sample ID: MW-16
Collection Date: 21-Dec-2016 09:40

ANALYTICAL REPORT
WorkOrder:HS16121150
Lab ID:HS16121150-03
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Benzene	ND		0.0010	mg/L	1	24-Dec-2016 15:25
Toluene	ND		0.0010	mg/L	1	24-Dec-2016 15:25
Ethylbenzene	ND		0.0010	mg/L	1	24-Dec-2016 15:25
Xylenes, Total	ND		0.0010	mg/L	1	24-Dec-2016 15:25
Surr: 1,2-Dichloroethane-d4	*81.4*		*71-125*	*%REC*	*1*	*24-Dec-2016 15:25*
Surr: 4-Bromofluorobenzene	*96.7*		*70-125*	*%REC*	*1*	*24-Dec-2016 15:25*
Surr: Dibromofluoromethane	*90.2*		*74-125*	*%REC*	*1*	*24-Dec-2016 15:25*
Surr: Toluene-d8	*98.8*		*75-125*	*%REC*	*1*	*24-Dec-2016 15:25*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
ANALYTICAL REPORT
Project: DCP Former Hobbs Booster Station
WorkOrder:HS16121150
Sample ID: MW-19
Lab ID:HS16121150-04
Collection Date: 21-Dec-2016 08:40
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Benzene	ND		0.0010	mg/L	1	24-Dec-2016 15:48
Toluene	ND		0.0010	mg/L	1	24-Dec-2016 15:48
Ethylbenzene	ND		0.0010	mg/L	1	24-Dec-2016 15:48
Xylenes, Total	ND		0.0010	mg/L	1	24-Dec-2016 15:48
Surr: 1,2-Dichloroethane-d4	*85.9*		*71-125*	*%REC*	*1*	*24-Dec-2016 15:48*
Surr: 4-Bromofluorobenzene	*95.6*		*70-125*	*%REC*	*1*	*24-Dec-2016 15:48*
Surr: Dibromofluoromethane	*92.8*		*74-125*	*%REC*	*1*	*24-Dec-2016 15:48*
Surr: Toluene-d8	*101*		*75-125*	*%REC*	*1*	*24-Dec-2016 15:48*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
ANALYTICAL REPORT
Project: DCP Former Hobbs Booster Station
WorkOrder:HS16121150
Sample ID: MW-19D
Lab ID:HS16121150-05
Collection Date: 21-Dec-2016 08:45
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: PC
Benzene	**0.11**		**0.0010**	**mg/L**	1	29-Dec-2016 14:30
Toluene	ND		0.0010	mg/L	1	29-Dec-2016 14:30
Ethylbenzene	**0.0036**		**0.0010**	**mg/L**	1	29-Dec-2016 14:30
Xylenes, Total	ND		0.0010	mg/L	1	29-Dec-2016 14:30
Surr: 1,2-Dichloroethane-d4	*82.5*		*71-125*	*%REC*	*1*	*29-Dec-2016 14:30*
Surr: 4-Bromofluorobenzene	*95.7*		*70-125*	*%REC*	*1*	*29-Dec-2016 14:30*
Surr: Dibromofluoromethane	*94.1*		*74-125*	*%REC*	*1*	*29-Dec-2016 14:30*
Surr: Toluene-d8	*100*		*75-125*	*%REC*	*1*	*29-Dec-2016 14:30*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
ANALYTICAL REPORT
Project: DCP Former Hobbs Booster Station
WorkOrder:HS16121150
Sample ID: MW-20
Lab ID:HS16121150-06
Collection Date: 21-Dec-2016 08:50
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Benzene	ND		0.0010	mg/L	1	24-Dec-2016 16:12
Toluene	ND		0.0010	mg/L	1	24-Dec-2016 16:12
Ethylbenzene	ND		0.0010	mg/L	1	24-Dec-2016 16:12
Xylenes, Total	ND		0.0010	mg/L	1	24-Dec-2016 16:12
Surr: 1,2-Dichloroethane-d4	*83.2*		*71-125*	*%REC*	*1*	*24-Dec-2016 16:12*
Surr: 4-Bromofluorobenzene	*93.6*		*70-125*	*%REC*	*1*	*24-Dec-2016 16:12*
Surr: Dibromofluoromethane	*93.2*		*74-125*	*%REC*	*1*	*24-Dec-2016 16:12*
Surr: Toluene-d8	*105*		*75-125*	*%REC*	*1*	*24-Dec-2016 16:12*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
ANALYTICAL REPORT
Project: DCP Former Hobbs Booster Station
WorkOrder:HS16121150
Sample ID: MW-21
Lab ID:HS16121150-07
Collection Date: 21-Dec-2016 09:10
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Benzene	ND		0.0010	mg/L	1	24-Dec-2016 16:36
Toluene	ND		0.0010	mg/L	1	24-Dec-2016 16:36
Ethylbenzene	ND		0.0010	mg/L	1	24-Dec-2016 16:36
Xylenes, Total	ND		0.0010	mg/L	1	24-Dec-2016 16:36
Surr: 1,2-Dichloroethane-d4	*86.5*		*71-125*	*%REC*	*1*	*24-Dec-2016 16:36*
Surr: 4-Bromofluorobenzene	*93.9*		*70-125*	*%REC*	*1*	*24-Dec-2016 16:36*
Surr: Dibromofluoromethane	*93.4*		*74-125*	*%REC*	*1*	*24-Dec-2016 16:36*
Surr: Toluene-d8	*101*		*75-125*	*%REC*	*1*	*24-Dec-2016 16:36*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
ANALYTICAL REPORT
Project: DCP Former Hobbs Booster Station
WorkOrder:HS16121150
Sample ID: MW-22
Lab ID:HS16121150-08
Collection Date: 21-Dec-2016 08:00
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Benzene	ND		0.0010	mg/L	1	24-Dec-2016 17:00
Toluene	ND		0.0010	mg/L	1	24-Dec-2016 17:00
Ethylbenzene	ND		0.0010	mg/L	1	24-Dec-2016 17:00
Xylenes, Total	ND		0.0010	mg/L	1	24-Dec-2016 17:00
Surr: 1,2-Dichloroethane-d4	*84.9*		*71-125*	*%REC*	*1*	*24-Dec-2016 17:00*
Surr: 4-Bromofluorobenzene	*93.6*		*70-125*	*%REC*	*1*	*24-Dec-2016 17:00*
Surr: Dibromofluoromethane	*91.9*		*74-125*	*%REC*	*1*	*24-Dec-2016 17:00*
Surr: Toluene-d8	*99.8*		*75-125*	*%REC*	*1*	*24-Dec-2016 17:00*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
ANALYTICAL REPORT
Project: DCP Former Hobbs Booster Station
WorkOrder:HS16121150
Sample ID: MW-23
Lab ID:HS16121150-09
Collection Date: 21-Dec-2016 10:47
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: PC
Benzene	**0.0011**		**0.0010**	**mg/L**	1	29-Dec-2016 13:43
Toluene	ND		0.0010	mg/L	1	29-Dec-2016 13:43
Ethylbenzene	**0.0015**		**0.0010**	**mg/L**	1	29-Dec-2016 13:43
Xylenes, Total	**0.0014**		**0.0010**	**mg/L**	1	29-Dec-2016 13:43
Surr: 1,2-Dichloroethane-d4	*82.9*		*71-125*	*%REC*	*1*	*29-Dec-2016 13:43*
Surr: 4-Bromofluorobenzene	*94.0*		*70-125*	*%REC*	*1*	*29-Dec-2016 13:43*
Surr: Dibromofluoromethane	*92.6*		*74-125*	*%REC*	*1*	*29-Dec-2016 13:43*
Surr: Toluene-d8	*98.3*		*75-125*	*%REC*	*1*	*29-Dec-2016 13:43*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
ANALYTICAL REPORT
Project: DCP Former Hobbs Booster Station
WorkOrder:HS16121150
Sample ID: MW-24
Lab ID:HS16121150-10
Collection Date: 21-Dec-2016 10:48
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Benzene	ND		0.0010	mg/L	1	24-Dec-2016 17:23
Toluene	ND		0.0010	mg/L	1	24-Dec-2016 17:23
Ethylbenzene	ND		0.0010	mg/L	1	24-Dec-2016 17:23
Xylenes, Total	ND		0.0010	mg/L	1	24-Dec-2016 17:23
Surr: 1,2-Dichloroethane-d4	*88.1*		*71-125*	*%REC*	*1*	*24-Dec-2016 17:23*
Surr: 4-Bromofluorobenzene	*96.4*		*70-125*	*%REC*	*1*	*24-Dec-2016 17:23*
Surr: Dibromofluoromethane	*94.6*		*74-125*	*%REC*	*1*	*24-Dec-2016 17:23*
Surr: Toluene-d8	*101*		*75-125*	*%REC*	*1*	*24-Dec-2016 17:23*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP Former Hobbs Booster Station
Sample ID: MW-25
Collection Date: 21-Dec-2016 10:40

ANALYTICAL REPORT
WorkOrder:HS16121150
Lab ID:HS16121150-11
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Benzene	ND		0.0010	mg/L	1	24-Dec-2016 17:47
Toluene	ND		0.0010	mg/L	1	24-Dec-2016 17:47
Ethylbenzene	ND		0.0010	mg/L	1	24-Dec-2016 17:47
Xylenes, Total	ND		0.0010	mg/L	1	24-Dec-2016 17:47
Surr: 1,2-Dichloroethane-d4	*83.5*		*71-125*	*%REC*	*1*	*24-Dec-2016 17:47*
Surr: 4-Bromofluorobenzene	*91.2*		*70-125*	*%REC*	*1*	*24-Dec-2016 17:47*
Surr: Dibromofluoromethane	*91.4*		*74-125*	*%REC*	*1*	*24-Dec-2016 17:47*
Surr: Toluene-d8	*102*		*75-125*	*%REC*	*1*	*24-Dec-2016 17:47*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP Former Hobbs Booster Station
Sample ID: DUPLICATE
Collection Date: 21-Dec-2016 00:00

ANALYTICAL REPORT
WorkOrder:HS16121150
Lab ID:HS16121150-12
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: PC
Benzene	**0.015**		**0.0010**	**mg/L**	1	29-Dec-2016 14:06
Toluene	ND		0.0010	mg/L	1	29-Dec-2016 14:06
Ethylbenzene	ND		0.0010	mg/L	1	29-Dec-2016 14:06
Xylenes, Total	ND		0.0010	mg/L	1	29-Dec-2016 14:06
Surr: 1,2-Dichloroethane-d4	*83.8*		*71-125*	*%REC*	*1*	*29-Dec-2016 14:06*
Surr: 4-Bromofluorobenzene	*95.9*		*70-125*	*%REC*	*1*	*29-Dec-2016 14:06*
Surr: Dibromofluoromethane	*93.9*		*74-125*	*%REC*	*1*	*29-Dec-2016 14:06*
Surr: Toluene-d8	*99.8*		*75-125*	*%REC*	*1*	*29-Dec-2016 14:06*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
ANALYTICAL REPORT
Project: DCP Former Hobbs Booster Station
WorkOrder:HS16121150
Sample ID: TRIP BLANK 121216-45
Lab ID:HS16121150-13
Collection Date: 21-Dec-2016 00:00
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Benzene	ND		0.0010	mg/L	1	24-Dec-2016 13:02
Toluene	ND		0.0010	mg/L	1	24-Dec-2016 13:02
Ethylbenzene	ND		0.0010	mg/L	1	24-Dec-2016 13:02
Xylenes, Total	ND		0.0010	mg/L	1	24-Dec-2016 13:02
Surr: 1,2-Dichloroethane-d4	*86.8*		*71-125*	*%REC*	*1*	*24-Dec-2016 13:02*
Surr: 4-Bromofluorobenzene	*93.8*		*70-125*	*%REC*	*1*	*24-Dec-2016 13:02*
Surr: Dibromofluoromethane	*91.3*		*74-125*	*%REC*	*1*	*24-Dec-2016 13:02*
Surr: Toluene-d8	*99.9*		*75-125*	*%REC*	*1*	*24-Dec-2016 13:02*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP Former Hobbs Booster Station
WorkOrder: HS16121150

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R287115	**Test Name :** LOW LEVEL VOLATILES BY SW8260C			**Matrix:** Water		
HS16121150-01	MW-14	21 Dec 2016 11:10			24 Dec 2016 13:25	1
HS16121150-02	MW-15	21 Dec 2016 10:15			24 Dec 2016 15:01	1
HS16121150-03	MW-16	21 Dec 2016 09:40			24 Dec 2016 15:25	1
HS16121150-04	MW-19	21 Dec 2016 08:40			24 Dec 2016 15:48	1
HS16121150-06	MW-20	21 Dec 2016 08:50			24 Dec 2016 16:12	1
HS16121150-07	MW-21	21 Dec 2016 09:10			24 Dec 2016 16:36	1
HS16121150-08	MW-22	21 Dec 2016 08:00			24 Dec 2016 17:00	1
HS16121150-10	MW-24	21 Dec 2016 10:48			24 Dec 2016 17:23	1
HS16121150-11	MW-25	21 Dec 2016 10:40			24 Dec 2016 17:47	1
HS16121150-13	TRIP BLANK 121216-45	21 Dec 2016 00:00			24 Dec 2016 13:02	1
Batch ID R287425	**Test Name :** LOW LEVEL VOLATILES BY SW8260C			**Matrix:** Water		
HS16121150-05	MW-19D	21 Dec 2016 08:45			29 Dec 2016 14:30	1
HS16121150-09	MW-23	21 Dec 2016 10:47			29 Dec 2016 13:43	1
HS16121150-12	DUPLICATE	21 Dec 2016 00:00			29 Dec 2016 14:06	1

Client: Tasman Geosciences
Project: DCP Former Hobbs Booster Station
WorkOrder: HS16121150

QC BATCH REPORT

Batch ID: R287115 **Instrument: VOA6** **Method: SW8260**

MBLK Sample ID: **VBLKW-161224** Units: **ug/L** Analysis Date: **24-Dec-2016 12:38**
Client ID: Run ID: **VOA6_287115** SeqNo: **3942038** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	1.0								
Ethylbenzene	ND	1.0								
Toluene	ND	1.0								
Xylenes, Total	ND	1.0								
Surr: 1,2-Dichloroethane-d4	*42.11*	*1.0*	*50*	*0*	*84.2*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*46.91*	*1.0*	*50*	*0*	*93.8*	*70 - 125*				
Surr: Dibromofluoromethane	*45.88*	*1.0*	*50*	*0*	*91.8*	*74 - 125*				
Surr: Toluene-d8	*51.27*	*1.0*	*50*	*0*	*103*	*75 - 125*				

LCS Sample ID: **VLCSW-161224** Units: **ug/L** Analysis Date: **24-Dec-2016 11:27**
Client ID: Run ID: **VOA6_287115** SeqNo: **3942037** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	43.05	1.0	50	0	86.1	75 - 122				
Ethylbenzene	46.45	1.0	50	0	92.9	80 - 120				
Toluene	44.63	1.0	50	0	89.3	75 - 121				
Xylenes, Total	141.4	1.0	150	0	94.3	79 - 124				
Surr: 1,2-Dichloroethane-d4	*39.17*	*1.0*	*50*	*0*	*78.3*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*49.5*	*1.0*	*50*	*0*	*99.0*	*70 - 125*				
Surr: Dibromofluoromethane	*45.56*	*1.0*	*50*	*0*	*91.1*	*74 - 125*				
Surr: Toluene-d8	*51.34*	*1.0*	*50*	*0*	*103*	*75 - 125*				

MS Sample ID: **HS16121150-01MS** Units: **ug/L** Analysis Date: **24-Dec-2016 13:49**
Client ID: **MW-14** Run ID: **VOA6_287115** SeqNo: **3942041** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	81.51	1.0	50	46.88	69.3	75 - 122				S
Ethylbenzene	43.92	1.0	50	0.139	87.6	80 - 120				
Toluene	42.2	1.0	50	0	84.4	75 - 121				
Xylenes, Total	131.4	1.0	150	0	87.6	80 - 124				
Surr: 1,2-Dichloroethane-d4	*41.13*	*1.0*	*50*	*0*	*82.3*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*47.33*	*1.0*	*50*	*0*	*94.7*	*70 - 125*				
Surr: Dibromofluoromethane	*45.68*	*1.0*	*50*	*0*	*91.4*	*74 - 125*				
Surr: Toluene-d8	*50.55*	*1.0*	*50*	*0*	*101*	*75 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP Former Hobbs Booster Station
WorkOrder: HS16121150

QC BATCH REPORT

Batch ID: R287115 **Instrument: VOA6** **Method: SW8260**

MSD Sample ID: **HS16121150-01MSD** Units: **ug/L** Analysis Date: **24-Dec-2016 14:13**
Client ID: **MW-14** Run ID: **VOA6_287115** SeqNo: **3942042** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Benzene	79.34	1.0	50	46.88	64.9	75 - 122	81.51	2.69	20	S
Ethylbenzene	45.55	1.0	50	0.139	90.8	80 - 120	43.92	3.66	20	
Toluene	43.25	1.0	50	0	86.5	75 - 121	42.2	2.46	20	
Xylenes, Total	136.5	1.0	150	0	91.0	80 - 124	131.4	3.85	20	
Surr: 1,2-Dichloroethane-d4	*41.2*	*1.0*	*50*	*0*	*82.4*	*71 - 125*	*41.13*	*0.174*	*20*	
Surr: 4-Bromofluorobenzene	*48.33*	*1.0*	*50*	*0*	*96.7*	*70 - 125*	*47.33*	*2.08*	*20*	
Surr: Dibromofluoromethane	*46.27*	*1.0*	*50*	*0*	*92.5*	*74 - 125*	*45.68*	*1.29*	*20*	
Surr: Toluene-d8	*50.82*	*1.0*	*50*	*0*	*102*	*75 - 125*	*50.55*	*0.527*	*20*	

The following samples were analyzed in this batch:

HS16121150-01	HS16121150-02	HS16121150-03	HS16121150-04
HS16121150-06	HS16121150-07	HS16121150-08	HS16121150-10
HS16121150-11	HS16121150-13		

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP Former Hobbs Booster Station
WorkOrder: HS16121150

QC BATCH REPORT

Batch ID: R287425 **Instrument: VOA6** **Method: SW8260**

MBLK Sample ID: **VBLKW-161229** Units: **ug/L** Analysis Date: **29-Dec-2016 12:55**
Client ID: Run ID: **VOA6_287425** SeqNo: **3948579** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	1.0								
Ethylbenzene	ND	1.0								
Toluene	ND	1.0								
Xylenes, Total	ND	1.0								
Surr: 1,2-Dichloroethane-d4	*42.94*	*1.0*	*50*	*0*	*85.9*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*47.82*	*1.0*	*50*	*0*	*95.6*	*70 - 125*				
Surr: Dibromofluoromethane	*45.67*	*1.0*	*50*	*0*	*91.3*	*74 - 125*				
Surr: Toluene-d8	*50.15*	*1.0*	*50*	*0*	*100*	*75 - 125*				

LCS Sample ID: **VLCSW-161229** Units: **ug/L** Analysis Date: **29-Dec-2016 12:08**
Client ID: Run ID: **VOA6_287425** SeqNo: **3948578** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	50.47	1.0	50	0	101	75 - 122				
Ethylbenzene	52.58	1.0	50	0	105	80 - 120				
Toluene	50.77	1.0	50	0	102	75 - 121				
Xylenes, Total	156.9	1.0	150	0	105	79 - 124				
Surr: 1,2-Dichloroethane-d4	*42.49*	*1.0*	*50*	*0*	*85.0*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*48.41*	*1.0*	*50*	*0*	*96.8*	*70 - 125*				
Surr: Dibromofluoromethane	*46.93*	*1.0*	*50*	*0*	*93.9*	*74 - 125*				
Surr: Toluene-d8	*51.47*	*1.0*	*50*	*0*	*103*	*75 - 125*				

MS Sample ID: **HS16121150-09MS** Units: **ug/L** Analysis Date: **29-Dec-2016 14:54**
Client ID: **MW-23** Run ID: **VOA6_287425** SeqNo: **3948584** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	46.61	1.0	50	1.146	90.9	75 - 122				
Ethylbenzene	48.26	1.0	50	1.465	93.6	80 - 120				
Toluene	46.17	1.0	50	0	92.3	75 - 121				
Xylenes, Total	144	1.0	150	1.445	95.1	80 - 124				
Surr: 1,2-Dichloroethane-d4	*41.96*	*1.0*	*50*	*0*	*83.9*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*48.36*	*1.0*	*50*	*0*	*96.7*	*70 - 125*				
Surr: Dibromofluoromethane	*47.39*	*1.0*	*50*	*0*	*94.8*	*74 - 125*				
Surr: Toluene-d8	*50.67*	*1.0*	*50*	*0*	*101*	*75 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP Former Hobbs Booster Station
WorkOrder: HS16121150

QC BATCH REPORT

Batch ID: R287425 **Instrument: VOA6** **Method: SW8260**

MSD Sample ID: **HS16121150-09MSD** Units: **ug/L** Analysis Date: **29-Dec-2016 15:17**
Client ID: **MW-23** Run ID: **VOA6_287425** SeqNo: **3948585** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Benzene	46.12	1.0	50	1.146	89.9	75 - 122	46.61	1.06	20	
Ethylbenzene	48.65	1.0	50	1.465	94.4	80 - 120	48.26	0.797	20	
Toluene	46.08	1.0	50	0	92.2	75 - 121	46.17	0.186	20	
Xylenes, Total	144.4	1.0	150	1.445	95.3	80 - 124	144	0.26	20	
Surr: 1,2-Dichloroethane-d4	*42.19*	*1.0*	*50*	*0*	*84.4*	*71 - 125*	*41.96*	*0.548*	*20*	
Surr: 4-Bromofluorobenzene	*48.8*	*1.0*	*50*	*0*	*97.6*	*70 - 125*	*48.36*	*0.907*	*20*	
Surr: Dibromofluoromethane	*45.98*	*1.0*	*50*	*0*	*92.0*	*74 - 125*	*47.39*	*3.03*	*20*	
Surr: Toluene-d8	*50.86*	*1.0*	*50*	*0*	*102*	*75 - 125*	*50.67*	*0.363*	*20*	

The following samples were analyzed in this batch: HS16121150-05 HS16121150-09 HS16121150-12

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP Former Hobbs Booster Station
WorkOrder: **HS16121150**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	16-022-1	27-Mar-2017
California	2919 2016-2018	31-Jul-2018
Illinois	003872	09-May-2017
Kansas	E-10352 2016-2017	31-Jul-2017
Kentucky	96 2016-2017	30-Apr-2017
Louisiana	03087 2016-2017	30-Jun-2017
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R193 2016-2017	30-Apr-2017
Oklahoma	2016-122	31-Aug-2017
Texas	TX104704231-16-17	30-Apr-2017

Client: Tasman Geosciences
Project: DCP Former Hobbs Booster Station
Work Order: HS16121150

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16121150-01	MW-14	Login	12/22/2016 3:09:20 PM	KRM	VW-3
HS16121150-02	MW-15	Login	12/22/2016 3:09:20 PM	KRM	VW-3
HS16121150-03	MW-16	Login	12/22/2016 3:09:20 PM	KRM	VW-3
HS16121150-04	MW-19	Login	12/22/2016 3:09:20 PM	KRM	VW-3
HS16121150-05	MW-19D	Login	12/22/2016 3:09:20 PM	KRM	VW-3
HS16121150-06	MW-20	Login	12/22/2016 3:09:20 PM	KRM	VW-3
HS16121150-07	MW-21	Login	12/22/2016 3:09:20 PM	KRM	VW-3
HS16121150-08	MW-22	Login	12/22/2016 3:09:20 PM	KRM	VW-3
HS16121150-09	MW-23	Login	12/22/2016 3:09:20 PM	KRM	VW-3
HS16121150-10	MW-24	Login	12/22/2016 3:09:20 PM	KRM	VW-3
HS16121150-11	MW-25	Login	12/22/2016 3:09:20 PM	KRM	VW-3
HS16121150-12	DUPLICATE	Login	12/22/2016 3:09:20 PM	KRM	VW-3
HS16121150-13	TRIP BLANK 121216-45	Login	12/22/2016 3:09:20 PM	KRM	VW-3

Sample Receipt Checklist

Client Name: Tasman Geosciences
Work Order: HS16121150
Date/Time Received: **22-Dec-2016 10:10**
Received by: **Jared R. Makan**

Checklist completed by: *Krysta Mathis* eSignature 22-Dec-2016 Date
Reviewed by: *Sonia West* eSignature 28-Dec-2016 Date

Matrices: **WATERS**
Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.3/1.6 U/C	11	
Cooler(s)/Kit(s):	42625		
Date/Time sample(s) sent to storage:	12/22/2016 17:00		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes: Times on vials dont match, MW-25 COC: 10:40 vials: 10:45 logged in per COC

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Spring City, PA +1 610 948 4903
South Charleston, WV +1 304 356 3168
Middletown, PA +1 717 944 5541
Salt Lake City, UT +1 801 266 7700
York, PA +1 717 505 5280

Chain of Custody Form

COC ID: 154434

ALS Project Manager:		ALS Work Order #:	

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order	400130005	Project Name	DCP Former Hobbs Booster Station	A	8260_LL_W (BTEX)
Work Order		Project Number	F211	B	
Company Name	Tasman Geosciences	Bill To Company	DCP Midstream, LP	C	HS16121150
Send Report To	Brian Humphrey	Invoice Attn	Stephen Weathers	D	Tasman Geosciences
Address	8899 Pecos St Unit C	Address	370 17th Street, Suite 2500	E	DCP Former Hobbs Booster Station
				F	
City/State/Zip	Denver, CO 80221	City/State/Zip	Denver, Colorado 80202	G	
Phone	303-487-1228	Phone		H	
Fax		Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-14	12-21-16	1110	Water	None	3	X										
2	MW-15		1015	Water	↓	3	X										
3	MW-16		0940	Water	1	3	X										
4	MW-18		0840	Water		3	X										
5	MW-19D		0845	Water		3	X										
6	MW-20		0850	Water		3	X										
7	MW-21		0910	Water	↓	3	X										
8	MW-22		0800	Water	None	3	X										
9	MW-23	↓	1047	Water	↓	3	X										
10																	

Sampler(s) Please Print & Sign	Shipment Method	Required Turnaround Time: (Check Box)	Results Due Date:
Mitch Weller	FedEx Overnight	TAT 10 days Other	

Relinquished by:	Date:	Time:	Received by:	Notes:
Mitchell Weller	12-21-16	1300		(DCP Former Hobbs Booster Station)
Relinquished by:	Date:	Time:	Received by (Laboratory):	
	12/22/16	10:10	JM	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

Cooler ID	Cooler Temp.
42625	1.3
	1.1
	CF0.3

QC Package: (Check One Box Below)
QC Level STD
Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Middletown, PA +1 717 944 5541
Spring City, PA +1 610 948 4903
Salt Lake City, UT +1 801 266 7700
South Charleston, WV +1 304 356 3168
York, PA +1 717 505 5280

Chain of Custody Form

COC ID: 154433

ALS Project Manager: | ALS Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order	400126005	Project Name	DCP Former Hobbs Booster Station	A	8260_LL_W (BTEX)
Work Order		Project Number	F211	B	
Company Name	Tasman Geosciences	Bill To Company	DCP Midstream, LP	C	
Send Report To	Brian Humphrey	Invoice Attn	Stephen Weathers	D	
Address	6899 Pecos St Unit C	Address	370 17th Street, Suite 2500	E	
City/State/Zip	Denver, CO 80221	City/State/Zip	Denver, Colorado 80202	F	
Phone	303-487-1228	Phone		G	
Fax		Fax		H	
e-Mail Address		e-Mail Address		I	
				J	

HS16121150

Tasman Geosciences

DCP Former Hobbs Booster Station

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-24	12-21-16	1048	Water	1	3	X										
2	MW-25	↓	1040	Water	↓	3	X										
3	Duplicate	↓	NT —	Water	None	3	X										
4	Trip Blank	—	—	Water	—	2	X										
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Mitch Weller

Shipment Method:

Required Turnaround Time: (Check Box) TAT: 10 days Other:

Results Due Date:

	Date	Time		Notes:
Relinquished by: Mitchell Weller	12-21-16 1300	1300	Received by:	
Relinquished by: —	12/22/16	10:10	Received by (Laboratory): JM	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

Cooler ID	Cooler Temp.
4262S	1.3
	IR11
	CF0.3

QC Package: (Check One Box Below)
QC Level: STD
Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.